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(54) Title: **STEATOSIS-MODULATING FACTORS AND USES THEREOF**

(57) Abstract: The present invention relates to a method of modulating the muscular steatosis-modulating factors (MSMF). The determination of concentrations of the MSMF is described for the establishment of the steatotic state in individuals. Also, is disclosed a method of selecting individuals to serve as founders of animal lineages. The present method involved too the treatment of human and animals with agonists or antagonists of MSMF depending of the effects desired.

STEATOSIS-MODULATING FACTORS AND USES THEREOFBACKGROUND OF THE INVENTION(a) Field of the Invention

5 The invention relates to a measurement of the level of muscular steatosis-modulating factor (MSMF) in human or animal. The method is performed by measuring level of MSMF in a biological sample, and then screening individual having normal and abnormal level
10 of MSMF.

(b) Description of Prior Art

Mammalian skeletal muscle normally undergoes a reparative process after oxidative stress or traumatic injury. The process of skeletal muscle repair is
15 actually a series of discrete overlapping events, which can be segregated into trauma, tissue degeneration, inflammation, phagocytosis, angiogenesis, stem cell activation, migration of the stem cells to the site of injury, proliferation of undifferentiated stem cells,
20 re-innervation, differentiation of the stem cells, and remodeling of the tissue.

The early restored muscle tissues approximate embryonic-like satellite cells containing centrally located nuclei and lies adjacent to mature myofibers
25 containing peripherally located nuclei. Unfortunately, restoration of physiological function may be compromised due to the increased proliferative nature of the surrounding connective tissues, eventually forming non-functional scar tissue.

30 Research in other areas has indicated that various factors such as platelet derived growth factor (PDGF), chicken muscle growth factor (CMGF), epidermal growth factor (EGF), sciatic nerve extract, insulin,

and somatomedins stimulate a mitogenic or proliferative response in cultured muscle cells. This response should be contrasted with a myogenic response that does not induce myogenic lineage commitment of uncommitted stem
5 cells, but instead induces the lineage commitment of the stem cells.

Three growth factors, insulin and insulin-like growth factors, namely insulin-like growth factor-I (IGF-I), also called somatomedin-C, insulin-like growth
10 factor-II (IGF-II), also called myogenic stimulating activity, have been shown to be potent stimulators of skeletal muscle cell growth and differentiation in cultured myosatellite cells and myogenic lineage-committed stem cells by Ewton and Florini, Dev. Biol.
15 83:31-39 (1981); Florini et al., J. Biol. Chem. 261:16509-16515 (1986); Sejersen et al., Proc. Natl. Acad. Sci. 83:6844-6848 (1986).

Several *in vivo* studies have employed basic-fibroblast growth factor (FGF-2) also named FGF-2,
20 transforming growth factor beta (TGF-beta), and epidermal growth factor (EGF) to stimulate internal wound healing. Buckley et al., Proc. Natl. Acad. Sci. 82:7340-7344 (1985); and Roberts et al., Proc. Natl. Acad. Sci. 83:4167-4171 (1986) noted that
25 administration of FGF-2, TGF-beta, and EGF appeared to promote proliferation of connective tissue elements to form scar tissue and thus aid in wound healing of mammalian skeletal muscle.

In vitro studies have demonstrated the influence
30 of other growth factors on the resultant phenotypic expression in myogenic cultures. For example, Hauschka (Lim and Hauschka, J. Cell Biol. 98:739-747 (1984); and Olwin and Hauschka, Biochemistry 25:3487-3492 (1986))

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and co-workers have reported that acidic-fibroblast growth factor (aFGF) and basic-fibroblast growth factor (FGF-2) play a dual role in stimulating myoblast proliferation while directly repressing terminal
5 differentiation, as described by Linkhart et al., Dev. Biol. 86:19-30 (1981).

Unfortunately, the administration of growth factors that inhibit terminal myogenic differentiation, promote myoblast proliferation, and promote fibroblast
10 proliferation and differentiation as a method to promote muscle repair appears to cause an increase in connective tissue scar formation. In muscle, increased scar formation creates decreased physiological function. A decrease in connective tissue scar
15 formation with a compensatory increase in skeletal muscle mass plus revascularization and re-innervation of the tissues is necessary for the restoration of physiological function.

Obesity has been declared a public health hazard
20 by the National Institutes of Health. To combat this health problem, both prophylactic and therapeutic approaches are necessary. For prophylactic purposes, it would be useful to be able to predict and measure a person's propensity or susceptibility to obesity for
25 therapeutic purposes, a means for interfering with the development or differentiation of adipocytes (fat cells) would be of great benefit. Furthermore, as a broader preventative approach to obesity, the ability to limit the fat content of food mammals would be of
30 great importance. None of these desired objectives has been achieved. A weight reduction program cannot efficiently control early-onset obesity once the obesity is apparent. Therefore, a means for early

detection of early-onset obesity is imperative for its prevention.

It is held that excessive ingestion of fat and carbohydrate induces obesity and hyperlipidemia and even develops hypertension and arteriosclerosis ultimately. The desirability of repressing the absorption of fat and carbohydrate and diminishing the accumulation of fat has, therefore, been finding enthusiastic recognition.

10 Infants, on exposure to excessive ingestion of nutriments, suffer increase of adipocytes and assume the state that may well be called potential obesity. For this reason, it has been reported that the repression of the increase of the number of adipocytes
15 particularly in infants results directly in the prevention of the obesity and the cardiovascular diseases which may well be called complications of obesity in children and consequently in adults.

For the therapy of obesity and hyperlipidemia,
20 such measures as limitation of meal, ingestion of diet food (such as, for example, fibers), and even administration of various medicines have been in vogue. The medicines now in popular use include dextran sulfate which enhances the lipoprotein lipase activity
25 in blood, Nicomol™ that inhibits absorption of lipid, especially cholesterol, and Clofibrate™ and Pravastatin™ which are agents for improving metabolism of lipid, for example.

Unfortunately, the limitation of meal is an
30 agony for persons obliged to pursue this exercise and the administration of such medicines as mentioned above possibly entrains side effects.

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Replacement of myofibres by adipose cells, usually with no decrease in muscle volume is defined as muscular steatosis.

Reports concerning muscular steatosis (MSt) in animals is alternatively named progressive primary myopathy, pseudohypertrophic atrophy, lipomatous pseudohypertrophy, interstitial lipomatosis, lipomatous muscular dystrophy, myosclerosis, and hypoplasia or atrophica lipomatosa. MSt is typically found in otherwise healthy cattle and pigs but it also occurs in dogs, sheep, fish, birds and human. Cattle with MSt sometimes have an abnormal gait with hind feet knuckled over and erratic hind limb movements. Affected animals stand normally, but sway or stagger when blindfolded. Lesions are usually bilaterally symmetrical and may appear almost anywhere in the carcass, although longissimus dorsi and hind limb muscles are most frequently affected. Myofibres in affected areas may lack transverse striations and may be fragmented or vacuolated. Remaining myofibres may be hypertrophied, possibly a compensatory mechanism, or atrophied with an increase in number of nuclei. An important feature is that there is inflammatory cells usually invade no evidence of myofibre regeneration in MSt. Areas of MSt. Proliferation, or replacement by adipose cells is a common finding in many myopathies, especially terminal cases, and does not necessarily indicate MSt.

Muscles of meat animals, especially at market weight, contain large numbers of adipose cells that play a major role in the determination of meat quality. Since adipose tissue is normally found intramuscularly, MSt must be viewed in the context of normal intramuscular adipose tissue accumulation. It might be

difficult to distinguish between minimal MSt and maximal accumulation of adipose cells in muscles showing a normal reduction in apparent number of myofibres.

5 Effects of denervation are very variable but extramuscular denervation usually results in atrophy rather than MSt. MSt probably results from a combination of myofibre damage, motor denervation, autonomic re-innervation and positive caloric balance
10 occurring as a result of intramuscular denervation in a growing animal. The normal intramuscular adipose tissue pattern is retained in areas of MSt, and fatty acid composition is similar to subcutaneous fat with a high amount of unsaturated fatty acids. In naturally
15 occurring MSt, denervation alone would be unlikely to cause a major lesion because of the efficiency of collateral re-innervation by surviving neurons.

 It is possible that if intramuscular denervation had occurred in conjunction with muscle rupture, MSt
20 rather than fibrosis would be the result. It may be no coincidence that MSt is typically observed in heavily muscled meat animals in locations (loin and hind limb) that might be damaged by muscular exertion during locomotion or mating. MSt in one area of a muscle
25 might predispose adjacent areas to trauma on subsequent exertion, thus accounting for the considerable tracts of MSt that may occur. The alternative hypothesis to self-inflicted muscle damage is that MSt is due to a defective development of vascular tissues. Although
30 blood vessels with abnormally thick walls and surrounded by connective tissues may be observed in naturally occurring MSt, this might also be related to muscle damage.

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With classical histological techniques, intermyofibrillar lipid droplets were distinguished from interstitial granules (mitochondria), and both were found to be more abundant in "dark" myofibres.

5 Lipid staining droplets occur in bovine fetuses and in the atrophic muscles of steers on a submaintenance diet. The abnormal accumulation of lipid droplets may occur in myofibres either as a non-specific response to myofibre degeneration or through a defect in long chain

10 fatty acid utilization. It is possible that lipid accumulation myopathy is an initial cause of MST.

Traverse muscle sections in myopathic conditions, polygonal cells resembling myofibres have a glassy appearance, are uniformly sudanophilic and are

15 not exhibiting any reaction for beta-hydroxybutyric dehydrogenase, as are adjacent red myofibres. With light microscopy, myofibrillar disruption, lipid infiltration and loss of birefringence can be observed within porcine myofibres. Subsequent electron

20 microscopy shows that changes can be due to dissociation of groups of myofibrils, contraction of sarcomeres, loss of density in the A band and fragmentation of myofibrils. Lipid infiltration is confirmed, and it is also observed that the sarcolemma

25 is detached and thickened and that mitochondria have wasted matrices and fragmented cristae.

Human lipid accumulation myopathies most often involve the red or type 1 myofibres is no coincidence that aerobic metabolism, the typical function of red

30 myofibres, is deficient in SS-lineage pigs and that red myofibres are more easily damaged by ischaemia.

Different molecules, growth hormones, growth factors, lipids and other have been studied in

association with the adipogenesis and myogenesis mechanisms. Among those factors, there is considered acidic and basic fibroblast growth factor (aFGF, FGF-2), transforming growth factor -beta and -alpha (TGF- α and TGF- α), adipocyte differentiating related protein (ADRP), epidermal growth factor (EGF), insulin like growth factor 1 and 2 (IGF-1 and IGF-2), IGF-1 receptor and IGF-2 receptor, platelet derived growth factor -alpha and -beta (PDGF- α and PDGF- β), leptin, and lipoprotein lipase (LPL).

Epidermal growth factor (EGF) is a 6-kDa molecular weight polypeptide found in high concentrations in the submaxillary glands and at lower levels in the circulation. EGF affects the proliferation and the maintenance of functional properties of various mammalian cells *in vitro* (13-14). Animal experiments involving either injection of EGF, injection of antibodies specific for EGF, or removal of the major source of EGF by sialoadenectomy, have shown that EGF played a physiological role on the maintenance of several tissue functions *in vivo*.

IGF-I and IGF-II are growth factors that have related amino acid sequence and structure, with each polypeptide having a molecular weight of approximately 7.5 kilodaltons (kDa). IGF-I mediates the major effects of growth hormone, and thus is the primary mediator of growth after birth. IGF-I has also been implicated in the actions of various other growth factors, since treatment of cells with such growth factors leads to increased production of IGF-I. In contrast, IGF-II is believed to have a major role in fetal growth. Both IGF-I and IGF-II have insulin-like activities (hence their names), and are mitogenic (stimulate cell

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division) and/or are trophic (promote recovery/survival) for cells in neural, muscular, reproductive, skeletal and other tissues.

Unlike most growth factors, IGFs are present in
5 substantial quantity in the circulation, but only a very small fraction of this IGF is free in the circulation or in other body fluids. Most circulating IGF is bound to the IGF-binding protein IGFBP-3. IGF-I may be measured in blood serum to diagnose abnormal
10 growth-related conditions, e.g., pituitary gigantism, acromegaly, dwarfism, various growth hormone deficiencies, and the like. Although IGF-I is produced in many tissues, most circulating IGF-I is believed to be synthesized in the liver.

15 Almost all IGF circulates in a non-covalently associated ternary complex composed of IGF-I or IGF-II, IGFBP-3, and a larger protein subunit termed the acid labile subunit (ALS). The IGF/IGFBP-3/ALS ternary complex is composed of equimolar amounts of each of the
20 three components. ALS has no direct IGF binding activity and appears to bind only to the IGF/IGFBP-3 binary complex. The IGF/IGFBP-3/ALS ternary complex has a molecular weight of approximately 150 kDa. This ternary complex is thought to function in the
25 circulation "as a reservoir and a buffer for IGF-I and IGF-II preventing rapid changes in the concentration of free IGF.

One other of these, the Insulin-Like Growth Factor-I Receptor (IGF-IR) is a member of the tyrosine
30 kinase family of signal transducing molecules. The IGF-IR is activated by the ligands IGF-I, IGF-II and insulin at supra-physiological concentrations, and plays an important role in the development, growth, and

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survival of normal cells. Over-expression of the IGF-IR leads to the transformation of fibroblasts and conversely, IGF-IR null fibroblasts are refractory to transformation by a number of oncogenes. Fibroblasts from IGF-IR null mice have been used to demonstrate a requirement for the IGF-IR in transformation, and also to map domains in the receptor essential for the proliferative and transformation function of the IGF-IR. Specifically, the C-terminal region of the IGF-IR is required for the transformation function. Receptors, which are truncated at amino acid 1229 fail to transform fibroblasts derived from IGF-IR, null mice, but retain full proliferative activity.

PDGF is considered to be a principal growth-regulatory molecule responsible for smooth muscle cell proliferation. For instance, PDGF, as measured by mRNA analysis as well as *in situ* staining using an antibody against PDGF, was found within macrophages of all stages of lesion development in both human and nonhuman primate atherosclerosis. PDGF was found in both non-foam cells and lipid rich macrophage foam cells. These data are consistent with PDGF playing a critical role in the atherosclerosis disease process. In addition, analysis of advanced human lesions examined by atherectomy catheter indicates that atherosclerotic and restenotic lesions contain high levels of PDGF as measured by *in situ* hybridization.

Human transforming growth factor-beta (TGF-beta) has been isolated from human blood platelets and placenta and purified to essential homogeneity using sequential gel filtration cation-exchange chromatography and high performance liquid chromatography. The purified protein has been

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characterized as having a molecular weight of 25,000 daltons and composed of 2 sub-units of 12,500 daltons each held together by disulfide bonds. The molecular weight, sub-unit structure and amino acid composition of the purified protein differed from that of platelet derived growth factor.

TGF-beta has also been purified from platelets or conditioned media utilizing acid ethanol extraction, cation-exchange separation on the extract, and hydrophobic separations on the active fractions to obtain a homogenous preparation. The purified product is said to be useful in wound healing and tissue repair.

TGF-beta has also been prepared utilizing recombinant DNA, wherein the cloned human gene coding for TGF-beta was inserted into eukaryotic cell lines for expression. The protein product was said to be useful in promoting anchorage-dependent or independent growth in cell culture.

The idea that FGF-2 antagonists may have useful medicinal applications is not new. FGF-2 is now known to play a key role in the development of smooth-muscle cell lesions following vascular injury. Overexpression of FGF-2 (and other members of the FGF family) is correlated with many malignant disorders (Takahashi et al. (1990) Proc. Natl. Acad. Sci. U.S.A. 87:5710). Neutralizing anti-FGF-2 antibodies have been found to suppress solid tumor growth in vivo by inhibiting tumor-linked angiogenesis (Hori et al. (1991) Cancer Res. 51:6180). Notable in this regard is the recent therapeutic examination of suramin, a polysulfated naphthalene derivative with known antiprotozoal activity, as an anti-tumor agent. Suramin is believed

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to inhibit the activity of FGF-2 through binding in the polyanion binding site and disrupting interaction of the growth factor with its receptor (Middaugh et al. (1992) Biochemistry 31:9016). In addition to having a

5 number of undesirable side effects and substantial toxicity, suramin is known to interact with several other heparin-binding growth factors, which makes linking of its beneficial therapeutic effects to specific drug-protein interactions difficult. Anti-

10 angiogenic properties of certain heparin preparations have also been observed (Folkman et al. (1983) Science 221:719; Crum et al. (1985) Science 230:1375) and these effects are probably based at least in part on their ability to interfere with FGF-2 signaling. While the

15 specific heparin fraction that contributes to FGF-2 binding is now partially elucidated, a typical heparin preparation is heterogeneous with respect to size, degree of sulfation and iduronic acid content. Additionally, heparin also affects many enzymes and

20 growth factors. Basic FGF is thought to regulate myogenesis during muscle development and regeneration *in vivo*. The increase percentage of muscle fibers containing the donor gene produced by the addition of FGF-2 may seem surprising since FGF-2 was reported to

25 inhibit differentiation of myoblasts *in vitro*. Basic FGF is, however, one of many growth factors, which are liberated following muscle damage. These factors, all together, certainly increase myoblast proliferation and eventually muscle repairs. It has been also observed

30 that following two days incubation with FGF-2 of primary myoblast cultures, myoblast fusion occurred within a few days after removal of FGF-2. The inhibition by FGF-2 on myoblast fusion is therefore not

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irreversible. Basic FGF is already at an increased level in mdx muscle, therefore it is not surprising that direct intramuscular injection did not increase the fusion of the donor myoblasts with the host fibers.

5 In fact, FGF-2 injected directly in the muscle probably stimulates the proliferation of the host as well as the donor myoblasts and therefore does not favor the donor myoblasts. On the contrary, preliminary stimulation by FGF-2 of the donor myoblasts in culture may favor these

10 myoblasts to proliferate more and eventually participate more to muscle regeneration than the host myoblasts. Although FGF-2 stimulates the fibroblasts, a result, which could pose an inconvenience to primary myoblast cultures, the 48 hours incubation of myoblast

15 primary culture with FGF-2, did not adversely affect the transplantation results. In fact, to the contrary, it improved them. If primary myoblast cultures were made fibroblast-free by sub-cloning, it would be envisageable to precondition the donor's myoblasts for

20 a longer time, thereby increasing the number of cells to be transplanted from a relatively small biopsy.

In the capillary bed of the peripheral circulatory system, the enzyme lipoprotein lipase hydrolyzes and removes most of the triglycerides from

25 the chylomicron. The lipoprotein that remains, now rich in cholesterol esters and potentially atherogenic, is called a chylomicron remnant. This postprandial lipoprotein is then removed from the circulation by the liver.

30 Other products or metabolic agents can be discussed, as such superoxide dismutase, carnitine, creatine, vitamin E, and lipids.

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The discovery of mutations to Cu,Zn superoxide dismutase in a subset of familial amyotrophic lateral sclerosis (ALS) cases has raised hopes for understanding the selective vulnerability of motor neurons as well as the pathogenesis of the remaining 98% of ALS cases not related to superoxide dismutase mutations.

Neurofilaments give axons their structural integrity and define axonal diameter. Neurofilaments are composed of three subunits identified as light (NF-L), medium (NF-M) and heavy (NF-H) which assemble in a 6:2:1 ratio to form long macromolecular filaments. Consequently, NF-L is more abundant than the other two subunits in neurons. NF-L is capable of homologous assembly whereas NF-M and NF-H are not competent to assemble in the absence of NF-L. Each neurofilament subunit consists of conserved head and rod domains and a more variable acidic tail domain. The rod domains are principally composed of alpha helixes, which wrap around each other to form a superhelix of parallel coiled coils.

Amyotrophic lateral sclerosis is a fatal neurodegenerative disease characterized by the selective loss of motor neurons and accompanying loss of voluntary muscular function. ALS typically begins as weakness in one limb during middle adult life and progresses via contiguous groups of motor neurons to ultimately result in paralysis and death within 3-5 years. Ninety percent of ALS cases are sporadic with no identifiable genetic or environmental risk factors. A familial inheritance pattern has been observed in the remaining 10% of ALS cases and one-fifth of those result from dominant missense mutations to the antioxidant enzyme copper, zinc superoxide dismutase

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(Cu,Zn superoxide dismutase). Early histopathological changes in ALS include abnormal accumulations of neurofilaments and other cytoskeletal proteins in the cell soma as well as within proximal axonal swellings.

5 The clinical course and histopathology of sporadic and familial forms of ALS are similar, providing hope that understanding superoxide dismutase-associated ALS was illuminate the pathogenesis of sporadic ALS.

L-carnitine serves two major functions. It is
10 best known for its role in facilitating entry of long-chain fatty acids into mitochondria for utilization in energy-generating processes. Long-chain fatty acids, as coenzyme A esters, are trans-esterified to L-carnitine in a reaction catalyzed by carnitine
15 palmitoyltransferase I of the mitochondrial outer membrane. Long-chain acylcarnitine esters enter into mitochondria via a specific carrier, carnitine-acylcarnitine translocase. On the matrix side of the inner mitochondrial membrane the long-chain fatty acid
20 is transesterified to intramitochondrial coenzyme A, catalyzed by carnitine palmitoyltransferase II. Carnitine may exit the mitochondrion as such or as a short-chain acylcarnitine ester, via the translocase. This function of carnitine is obligatory: long-chain
25 fatty acids cannot enter mitochondria independent of translocation as an ester of carnitine.

L-carnitine also facilitates removal from
mitochondria of short-chain and medium-chain fatty acids that accumulate as a result of normal and
30 abnormal metabolism. Short- and medium-chain acids, as acyl-CoA esters arising from β -oxidation and other mitochondrial processes, are trans-esterified to carnitine by the action of carnitine acetyltransferase.

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The acylcarnitine esters subsequently are transported out of mitochondria by the carnitine acylcarnitine translocase. This pathway provides a means to regenerate intramitochondrial free coenzyme A under
5 conditions where short-chain acyl-CoA esters are produced at a rate faster than they can be utilized.

Pharmacological administration of L-carnitine reduces the mortality and metabolic consequences associated with acute ammonium intoxication in mice.
10 The mechanism associated with this effect may have two components: L-carnitine administration normalizes the redox state of the brain (perhaps by increasing availability of β -hydroxybutyrate to the brain), and it increases the rate of urea synthesis in the liver. At
15 least part of the protective effect of L-carnitine is associated with flux through the carnitine acyltransferases, as inhibition of these enzymes by DL-aminocarnitine, acetyl-DL-aminocarnitine, or palmitoyl-DL-animocarnitine enhances toxicity of acute ammonium
20 administration. Carnitine administration may have significant benefit in patients with disorders of ammonia metabolism, including urea cycle defects, chronic valproic acid therapy, liver failure, organic acidemias, and Reye's syndrome.

25 It is known that propionyl-L-carnitine protects the ischemic heart from reperfusion injury, perhaps by scavenging free radicals or by preventing their formation by chelating iron necessary for generation of hydroxyl radicals. Long-chain acylcarnitine esters
30 also participate in turnover and repair of erythrocyte membrane phospholipids, independent of ATP hydrolysis. It has been speculated that carnitine and its esters protect cells from oxidative damage, both by inhibiting

free-radical propagation and by contributing to repair of oxidized membranes phospholipids. These processes may occur in many cell types, but may be particularly important in cardiac and other red muscle.

5 In poultry supplemented diet, it is not yet clear if the carnitine and its derivatives have an effect on feed intake, body and abdominal fat weight or on carcass or liver lipid levels.

10 Vitamin E acts to prevent the production of peroxide lipid as peroxide of an unsaturated fatty acid that is considered to be a material cause of the aging phenomenon. It has also a function of reinforcing blood vessels and activating the bloodstream, provides an anti-stress effect, and is a very important nutrient
15 for human beings and other animals.

On the other hand, in stockbreeding, marine culturing or pet breeding, the problems of aging, reduced disease resistance, stress generation, decreased hatchability, deteriorated egg quality or
20 meat quality, propagation disorder or mastitis, or reduction in the number of somatic cells in milk affect these animals, and a solution of these problems has hitherto been keenly demanded.

In the breeding of useful mammals including
25 livestock animals such as cattle, pigs and horses, and pets such as dogs and cats, and experimental animals such as rats, mice and guinea pigs, reproduction is efficient because these animals are useful for human beings. As the breeding density increases, the
30 acceleration of aging, reduced disease resistance, stress generation, accelerated oxidation of meat foods, deteriorated meat quality such as the blackening of meat foods, and propagation disorder occur more often.

Propagation disorder is caused by premature birth, reduction of conception ratio, ovulatory retardation, embryo death, a weakened estrous symptom or reduced production of progesterone.

5 Poultry such as domestic fowl, quail and turkey under overcrowded breeding conditions suffer from reduced disease resistance, stress generation, deteriorated meat quality and propagation disorder, and additionally, reduced egg quality in the case of egg
10 layers. In order to overcome these problems, various vitamins, including vitamin E and derivatives thereof, and minerals have been conventionally added individually or in combination to the drinking water or feed and then fed to poultry.

15 Creatine occurs in muscle and nervous tissue (especially in the CNS), and in the form of its secondary metabolite, phosphocreatine, represents an energy reserve for muscle and brain. In the nervous and cardiac muscle tissue creatine appears to have a
20 prophylactic and therapeutic effect in cases of ischemia resulting for instance from infarcts or pre- or perinatal conditions of oxygen deficit.

 Creatine is not only an endogenous substance and a valuable food supplement but also has valuable
25 therapeutic properties. It has been known for over a hundred years as a muscular substance and serves as a source of energy for the muscle. It was shown in a series of scientific studies that the intake of creatine can lead to an increase in muscular tissue and
30 muscular performance.

 There are also scientific findings that indicate that the pancreas releases more insulin under the influence of creatine. Insulin promotes the uptake of

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glucose and amino acids by muscle cells and stimulates protein synthesis. Insulin also lowers the rate of protein catabolism.

The prophylactic, therapeutic or dietetic use of
5 creatine in the most varied of application forms (oral, intravenous etc.) necessitates good bioavailability, which in turn means high solubility in water. This requirement is not sufficiently fulfilled in the case of creatine, which, as an amino-acid derivative, is
10 present in the form of an internal salt.

None of the molecule mentioned above, as mature factor or as genetic marker, was considered as involved in the muscular steatosis metabolisms. None of the references disclosed above disclose or suggest the
15 measurement of MSMFs to establish the health status regarding the steatosis, and their use for the treating or alleviating the symptoms of associated disorders. Further, none of the cited references disclose or suggest the administration MSMF alone or in
20 combinations for treating or alleviating the symptoms of the muscular steatosis.

It would be highly desirable to be provided with a new method of modulating factors responsible of modulation of the steatosis status in human and
25 animals. It is to this activity, and its applications in the modulation of steatosis through measurements of MSMF, selecting individuals regarding results of measurements, and administering MSMF to individuals if desired that the present invention be directed.

30

SUMMARY OF THE INVENTION

One object of the present invention is to provide a method for prognosis or diagnosis of muscular

steatosis based on the level of muscular steatosis-modulating factor (MSMF) in a human or animal, comprising the steps of measuring level of at least one MSMF in a biological sample of a patient, and comparing
5 the patient MSMF level with the MSMF level of a healthy human or animal, wherein a statistically significant difference indicate predisposition or occurrence of steatosis.

According to an object of the present invention,
10 the method is addressed to animals selected from the group consisting of mammal, and avian, and most particularly, the animals selected from the group consisting of porcine, bovine, ovine, caprine, chicken, turkey, horse, goat, canine, and feline.

15 Identifying differential expression of selected MSMF genes may perform the measurement of MSMF.

The MSMF may be selected from the group consisting of growth hormone, growth factor, cytokine, growth factor receptor, growth hormone receptor,
20 cytokine receptor, and lipid.

The measured MSMF may also be measure of IGF1, IGF2, aFGF, FGF-2, ADRP, IGF1R, PDGF α , TGF β , TGF α , LPL, EGF, PDGF β , Leptin, superoxide dismutase, carnitine, creatine kinase, vitamin, or a combination thereof.

25 MSMF may be measured in a biological sample that may be derived from a sample of blood, serum, plasma, biopsy, fat, salivary, feces, or urine.

Also, measuring level of at least one peptide, a precursor, a metabolite, or a messenger RNA of MSMF
30 performs the method according to the invention.

In accordance with another object, there is provided a method for the treatment of muscular steatosis in a human or animal patient, which comprises

regulating MSMF level substantially equivalent to that of healthy patient by administering an agonist, an antagonist of MSMF, or a combination thereof.

The treatment of steatosis may be performed by
5 administration of an agonist of MSMF that is at least one MSMF.

The agonist may be a recombinant, a precursor, a non-mature, an analog, a purified, or a physiologically active fragment of at least one MSMF.

10 Also, the agonist of MSMF may be an abzyme.

In another embodiment of the invention, the treatment of steatosis may be performed by administration of antagonists of MSMF that are MSMFs.

Among embodiments of the present invention, the
15 antagonist of MSMF used to treat the steatosis may be an abzyme.

According to the present invention, the antagonist may be selected from the group consisting of antibody, anti-MSMF messenger RNA, MSMF RNA ligand,
20 MSMF-specific antisense primer, anti-MSMF receptor, and mutant MSMF.

Another particular embodiment of the present invention is that agonist, antagonist, or combination thereof may be administered by introducing at least one
25 expression vector into the human or animal.

The expression vector may further be within at least one cell, and the cell is then introduced into a human or an animal to allow the *in vivo* synthesis of at least one agonist or antagonist of MSMF may be
30 administered systemically, orally, or intravenously, using an implant, or a slow delivery system.

According to the method of the invention, the muscular steatosis may be caused in an animal for

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increasing fat content in food, which comprises the step of administering to the animal a sufficient amount of at least one agonist, antagonist of MSMF, or a combination thereof.

5 Another object of the invention is that steatosis is caused by administration of agonist of MSMF that is at least one MSMF, or antagonist of MSMF that is at least one inhibitor of MSMF.

 The steatosis may be caused by administration of
10 an agonist, or an antagonist selected respectively from the group consisting of recombinant, precursor, non mature, analog, purified, and a physiologically active fragment of at least one MSMF, or an inhibitor of recombinant, precursor, non mature, analog, purified,
15 and a physiologically active fragment of at least one MSMF.

 The antagonist according to the method of causing the steatosis may be selected from the group of an antibody, an anti-MSMF messenger RNA, a MSMF RNA
20 ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, a synthetic antisense, a natural antisense, and a mutant MSMF.

 The messenger RNA or anti-MSMF messenger RNA may be complementary or corresponding to nucleic acid
25 sequences selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305, or a fragment thereof.

 Agonist of MSMF, antagonist of MSMF, or combination thereof may be administered by introducing at least one expression vector into the human or
30 animal, wherein the expression vector may be within at least one cell, and the cell is then introduced into a host human or animal.

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Another object of the method of causing the steatosis, is the administration of an agonist or antagonist systemically, orally, or intravenously, using an implant, or a slow delivery system.

5 In accordance with the present invention, there is provided a compound of the group of MSMF for treating or inducing muscular steatosis in a human or an animal patient.

The compound may be selected from the group
10 consisting of agonist, antagonist of MSMF, or a combination thereof.

In accordance with the present invention, there is provided a use of a compound of the group of MSMF in the manufacture of a medicament for treating or
15 inducing muscular steatosis.

In accordance with the present invention, there is provided a pharmaceutical composition for use in treating or causing muscular steatosis comprising a therapeutically acceptable and effective amount of a
20 compound of the group of MSMF in association with a pharmaceutically acceptable carrier.

For the purpose of the present invention the following terms are defined below.

The term "growth factor" as used herein refers
25 to any receptor ligand that causes a cell growth and/or cell proliferation effect. Examples of growth factors are well known in the art. Fibroblast growth factor (FGF) is one example of a growth factor.

The term "recombinant product" as used herein
30 refers to the product produced from a DNA sequence that comprises at least a portion of the MSMF. This product can be a peptide, a polypeptide, a protein, an enzyme, an antibody, an antibody fragment, a polypeptide that

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binds to a regulatory element (a term described hereafter), a structural protein, an RNA molecule, and/or a abzyme, for example. These products are well defined in the art.

5 By "expression vector" is meant any nucleic acid molecule or virus containing regulatory elements or reporter genes for the purpose of expression of a given gene in prokaryotic or eukaryotic cells or organisms. Such vectors can be introduced into a cell by means of
10 molecular biological techniques. After introduction into the cell, this nucleic acid can exist extrachromosomally or become integrated into the host genome.

The term "abzyme" as used herein means antibody
15 directed enzyme prodrug. Abzymes are defined as antibodies directed against appropriate transition state analogues that can catalyse a variety of chemical transformations and metabolic reactions. Furthermore, murine antibodies can be "humanized" using existing
20 technologies to reduce their immunogenicity in patients. Thus a humanized catalytic antibody (abzyme) could be prepared which replaces an enzyme and thus leads to a treatment system that combines both specificity and low immunogenicity.

25 Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. Although methods and materials described herein can be used to practice the
30 present invention, other similar or equivalent methods and material known to one skilled in the art can also be used. All publications, patent applications, patents, and other references mentioned herein are

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incorporated by reference in their entirety. In case of conflict, the present specification, including definitions, was control. The materials, methods, and examples described herein are illustrative only and not
5 intended to be limiting.

BRIEF DESCRIPTION OF THE DRAWING

Fig. 1 illustrates level expression (RT-PCR) of studied genes for muscular fat as steatosis markers in
10 healthy pigs and pigs having high degree of steatosis.

DETAILED DESCRIPTION OF THE INVENTION

In accordance with the present invention, there is provided a new method of modulating levels of
15 muscular steatosis-modulating factors (MSMF), measuring body levels of human and animal with naturally occurring or administered MSMF. As shown in examples provided below, measurement of steatosis based on measured levels of MSMF could be made by comparison to
20 levels measured in a steatosis-free control group or background level measured in a particular subject. The measurement can be confirm by correlation of the assay results with other aforementioned methods of disease known to those skilled in the arts, such as photonic
25 microscopy. Among MSMFs of the present invention, there is considered acidic and basic fibroblast growth factor (aFGF, FGF-2), transforming growth factor -beta and -alpha (TGF- β and TGF- α), adipocyte differentiating related protein (ADRP), epidermal growth factor (EGF),
30 insulin like growth factor 1 and 2 (IGF-1 and IGF-2), IGF-1 receptor and IGF-2 receptor, platelet derived growth factor -alpha and -beta (PDGF- α and PDGF- β), leptin, and lipoprotein lipase (LPL). Lipids that can

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be considered in establishing the steatosis status for monitoring MSMF of an individual are myristic acid (C14:0), myristoleic acid (C14:1), pentadecanoic acid (C15:0), pentadecenoic acid (C15:1), palmitic acid (C16:0), palmitoleic acid (C16:1), margaric acid (C17:0), margaroleic acid (C17:1), stearic acid (C18:0), oleic acid (C18:1), linoleic acid (C18:2), linoleinic acid (C18:3), arachidic acid (C20:0), eicosenoic acid (C20:1), eicosadienoic acid (C20:2), eicosatrienoic acid (C20:3), arachidonic acid (C20:4), beneic acid (C22:0), erucic acid (C22:1), docosandienoic acid (C22:2), docosaheptaenoic acid (C22:6), and lignoceric acid (C24:0).

In another embodiment of the invention, there is provided a method of detecting and quantifying MSMF in biological samples using an antibody specific for MSMF and, where appropriate, a detectable-labeled antigen (MSMF). The invention is to provide methods for diagnosis of diseases that are correlated to the loss and/or synthesis of muscular tissue as indicated by levels of MSMF or lipids detected in a biological sample. A method of identifying differential expression of selected genes is used to diagnosing the muscular steatosis in human and animals.

In another embodiment of the present invention, there is provided measure levels of FGF-2, IGF1R and LPL alone or in combinations as genetic markers in determining sings of muscular steatosis in a human or an animal.

In another embodiment of the present invention, there is provided a method for determining the steatosis status by using reverse transcription and polymerase chain reaction to amplify small amounts of

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MSMF mRNA. DNA-DNA hybridization can then be used to confirm the specificity of the amplified product as being MSMF.

5 This technique provides a method for measuring the quantities of MSMF. The ability to demonstrate the quantities of MSMF by RT-PCR and then confirm the specificity of the amplification by DNA hybridization has significant implications in clarifying MSMF role in muscular steatosis. In practice it is rendered possible
10 a direct testing of biological samples for the presence of MSMF that may be conducted.

The invention further provides screening methods to identify concentration of molecules that can be involved in modulating steatosis. In one aspect, such
15 screening methods comprise competitive binding assays wherein the ability of a putative modulating molecule to bind to MSMF is measured in the presence of a suitably labeled C-terminal peptide.

In one embodiment of the invention, MSMF are
20 measured to selected animals having specific characteristics regarding targeted MSMF. Those animals selected to be exempted of any sing of steatosis may be considered as genetically qualified for establishing lineages. For example, farm production of porcine,
25 bovine, chicken, turkey, ovine and caprine should profit of genetically selected founders in the establishment of healthy herds through the present invention.

In another embodiment, the invention is directed
30 to the selection of stably genetically selected individuals having naturally different status of muscular steatosis, to serve as founder animals for the establishment of specific herds having these

properties. It is well recognized that lipids and ratios of muscular lipids can influence the texture and taste of the meat. In some cases, higher level of muscular steatosis may be suitable to have animal with
5 more fatty muscles.

Alternatively, agonists of positively inducing MSMF, or MSMF itself can be administered to an animal to induce steatosis for the same aim mentioned above. Agonists of MSMF, for example, can be a MSMF itself or
10 combinations of MSMF, or abzymes that mimic binding sites of MSMF to their respective cell receptors, or that mimic enzymatic activity of the MSMF. Antagonists of MSMF, can be administered to reestablish a healthy state of an individual affected by the muscular
15 steatosis.

Yet additional embodiments of the invention comprise the use of MSMF and lipid compositions of the invention as screening markers for molecules which modulate or are involved in the establishment of
20 muscular steatosis. Such embodiments include, but are not limited to, assays which measure the ability of a putative MSMF to compete with other peptides and proteins (including, but not limited to, other peptide sequences of the MSMF itself), which are identified to
25 act specifically to the receptor compositions of the invention, in order to modulate the steatotic state of an individual.

The immunoassay procedure used is preferably quantitative so that levels of MSMF in a patient with
30 disease may be distinguished from normal levels which may be present in healthy individual and/or background levels measured in the patient. Competitive and sandwich assays on a solid phase using detectable

labels (direct or indirect) are, therefore, preferred. The label provided a detectable signal indicative of binding of antibody to the MSMF antigen. The antibody or antigen may be labeled with any label known in the art to provide a detectable signal, including radioisotopes, enzymes, fluorescent molecules, chemiluminescent molecules, bioluminescent molecules and colloidal gold. Of the known assay procedures, radioimmunoassay (RIA) is most preferred for its sensitivity. A radioisotope had, therefore, is the preferred label.

It has been appreciated by those skilled in the art that, although not necessarily as sensitive as an RIA, assay procedures using labels other than radioisotopes have certain advantages and may, therefore, be employed as alternatives to the preferred RIA format. For example, an enzyme-linked immunosorbent assay (ELISA) may be readily automated using an ELISA micrometer plate reader and reagents who are readily available in many research and clinical laboratories. Fluorescent, chemiluminescent and bioluminescent labels have the advantage of being visually detectable, though they are not as useful as radioisotopes to quantify the amount of antigen bound by antibody in the assay.

Molecules identified by means of the screening assays of the invention has been candidates as useful therapeutic products for the *in vivo*, *ex vivo* or *in vitro* treatment of target tissues alone or in combination with suitable carriers and excipients. Such compositions and their use comprise additional embodiments of the invention.

In yet another embodiment of the invention, there is provided expression vectors containing genetic

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sequences, hosts transformed with such expression vectors, and methods for producing the recombinant MSMF compositions of the invention.

The present invention is further directed to
5 methods for inducing or suppressing apoptosis in the cells and/or tissues of individuals suffering from disorders characterized by inappropriate cell proliferation or survival, or by inappropriate cell death, respectively. Disorders characterized by
10 inappropriate cell proliferation and/or survival include, for example, inflammatory conditions, cancer, including lymphomas, genotypic tumors, etc. Disorders characterized by inappropriate cell death include, for example, autoimmune diseases, acquired immunodeficiency
15 disease (AIDS), cell death due to radiation therapy or chemotherapy, acute hypoxic injury, etc.

In another embodiment of the present invention, there is provided a method for identification of the hormones and other factors, the steatosis-modulating
20 factors, controlling the balance between muscular and adipocyte proliferation and differentiation, that is very important for modulating normal adipose and muscular tissue development and for designing approaches for screening individuals having normal and
25 abnormal states of adipose tissue development, such as obesity for example.

In yet another embodiment of the present invention, there is provided a method of treating an individual with MSMF in an individual that need such
30 treatment, comprising the step of administering to the individual a pharmacologically effective dose of one MSMF aforementioned or combinations thereof.

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The present invention was more readily understood by referring to the following examples, which are given to illustrate the invention rather than to limit its scope.

5

EXAMPLE I

MUSCLE-FAT IMBALANCEMENT IN GROWING PIGS

In swine, specific ham muscles such as semi-tendineous biceps femoris and semi-membranous are sometimes abnormally infiltrated with fat, leading to a severe muscle degeneration. We suspected different genetic factors to be implicated in the development of this muscular-fat imbalance.

A total of 113 among 676 pigs were selected in a local farm. Healthy and steatotic animals were directly selected at the farm by using ALOKA apparatus performing bi-directional ultrasonic reading. After slaughter, 80 pigs were retained following a visual quotation of the left semi-tendineous muscle and according to a design with muscular fat infiltration (0 or severe).

Methods of analysis

Vitamin E: The concentrations of plasmatic and hepatic Vitamin E were determined through an home made adapted method described by Bieri et al (Bieri, J.G. et al., Am. J. Clin. Nutri. (1979) vol. 32; 2143-2149) on HPLC (High Pressure Liquid Chromatography). Results are presented in Table 1.

L-carnitine: Using a modified approaches (radio-isotopical) developed by McGarry and Foster ((1976) J. Lipid Res. 17:277-281), concentrations of L-carnitine contained in semi-tendineous muscles and plasma were determined. Results are shown in Table 1.

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Creatine kinase: The analysis of quantities of creatine kinase in plasma has been performed with a commercial (Sigma Diagnostics #C2527, St-Louis, MO) enzymatic kit allowing to measure variations of NADH at optical density of 340 nm, that is a direct indication of the creatine kinase activity. Results are presented in Table 1.

Selenium: Quantities of selenium in blood was directly measured by the assessment of the activity of glutathion peroxidase. The level of activity is determined by measuring oxidative rates of NADPH by spectrophotometry at 340 nm of optical density. Results are presented in Table 1.

Superoxide dismutase: The activity of superoxide-dismutase in muscles was performed with a commercial kit (Calbiochem, #574600, San Diego, CA) allowing to measure variation in levels of oxidation of a chromophore agent by optical density at 525nm. Results are shown in Table 1.

TABLE 1
SUMMARY OF STATISTICS OF BLOOD AND TISSUE ANALYSIS

| Variables | SEX | | STEATOSIS | | SEM | P | | |
|---|-------------|-------------|-----------|---------|--------|-------|-----------|-------|
| | M | F | Affected | Normal | | Sex | Steatosis | S/ST |
| CARNITINE MUSCLE (nmoles/mg protein) | 22.01 | 21.32 | 21.52 | 21.81 | 0.644 | 0.451 | 0.753 | 0.574 |
| CARNITINE PLASMA (umoles /liter) | 4.67 | 4.42 | 4.88 | 4.21 | 0.213 | 0.408 | 0.029 | 0.656 |
| CREATINE KINASE PLASMA (Unit/liter) | 382.0 | 418.4 | 360.9 | 439.6 | 49.625 | 0.613 | 0.276 | 0.536 |
| SELENIUM PLASMA (nmoles/mg protein) | 17.002 | 17.724 | 17.527 | 17.199 | 0.769 | 0.508 | 0.764 | 0.558 |
| SELENIUM BLOOD (umoles/min./gram Hb) | 231.32 3 | 222.35 6 | 228.020 | 225.658 | 9.019 | 0.484 | 0.854 | 0.456 |
| SUPEROXIDE DISMUTASE MUSCLE (Unit/mg protein) | 18.66 | 19.42 | 18.41 | 19.68 | 0.284 | 0.062 | 0.002 | 0.894 |
| VITAMIN E LIVER (ug/gram liver) | 20.886 | 20.243 | 22.691 | 18.438 | 0.859 | 0.600 | 0.001 | 0.279 |
| VITAMINE E PLASMA (ug /ml) | 1.188 | 1.371 | 1.268 | 1.291 | 0.064 | 0.050 | 0.803 | 0.957 |

5 Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/ \sqrt{n} ; (n = 40) P, probability; significant when < 0.05 (shaded)

10 Patterns of muscular and sub-cutaneous fatty acids were determined on gas phase chromatography. Results are shown in Tables 2, 3 and 4.

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TABLE 2
BACKFAT AND MUSCLE TISSUE FATTY ACIDS (%) IN NORMAL
AND AFFECTED PIGS

| Tissue Fat | SEX | | STEATOSIS | | P | | | |
|-------------------|-------|---|-----------|--------|-------|-------|-----------|-------|
| | M | F | Affected | Normal | SEM | Sex | Steatosis | S/ST |
| FAT MONO | 48.66 | | 49.62 | 49.21 | 0.485 | 0.040 | 0.560 | 0.018 |
| FAT POLY | 17.14 | | 16.34 | 17.57 | 0.492 | 0.605 | 0.092 | 0.971 |
| FAT SATURED | 34.20 | | 34.04 | 33.22 | 0.526 | 0.141 | 0.283 | 0.029 |
| MUSCLE MONO | 47.58 | | 48.51 | 46.29 | 1.136 | 0.819 | 0.182 | 0.034 |
| MUSCLE POLY | 14.39 | | 11.92 | 18.33 | 0.727 | 0.170 | 0.001 | 0.105 |
| MUSCLE SATURED | 38.01 | | 39.56 | 35.35 | 0.956 | 0.422 | 0.005 | 0.182 |

5

Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/ \sqrt{n} ; (n = 12) P, probability; significant when < 0.05 (shaded).

10

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TABLE 3
BACKFAT FATTY ACID COMPOSITION (%) IN NORMAL AND
AFFECTED PIGS

| FATTY ACIDS | TISSUE | SEX | | STEATOSIS | | SEM | P | | |
|-------------|--------|-------|-------|-----------|--------|-------|-------|-----------|-------|
| | | M | F | Affected | Normal | | Sex | Steatosis | S/ST |
| C14:0 | FAT | 1.54 | 1.34 | 1.34 | 1.54 | 0.061 | 0.025 | 0.031 | 0.001 |
| C14:1 | FAT | 0.08 | 0.06 | 0.05 | 0.10 | 0.015 | 0.341 | 0.041 | 0.296 |
| C15:0 | FAT | 0.15 | 0.11 | 0.10 | 0.16 | 0.022 | 0.172 | 0.060 | 0.180 |
| C15:1 | FAT | 0.08 | 0.07 | 0.05 | 0.09 | 0.010 | 0.368 | 0.024 | 0.252 |
| C16:0 | FAT | 22.09 | 20.80 | 21.28 | 21.60 | 0.448 | 0.056 | 0.618 | 0.006 |
| C16:1 | FAT | 2.89 | 2.77 | 2.57 | 3.09 | 0.087 | 0.324 | 0.001 | 0.007 |
| C17:0 | FAT | 0.42 | 0.37 | 0.38 | 0.41 | 0.022 | 0.068 | 0.266 | 0.108 |
| C17:1 | FAT | 0.36 | 0.36 | 0.34 | 0.39 | 0.020 | 0.863 | 0.090 | 0.807 |
| C18:0 | FAT | 9.37 | 9.88 | 10.41 | 8.83 | 0.194 | 0.079 | 0.001 | 0.020 |
| C18:1 | FAT | 42.87 | 44.36 | 43.46 | 43.77 | 0.510 | 0.053 | 0.669 | 0.136 |
| C18:2 | FAT | 14.47 | 13.97 | 13.72 | 14.73 | 0.444 | 0.434 | 0.124 | 0.985 |
| C18:3 | FAT | 1.29 | 1.29 | 1.21 | 1.36 | 0.051 | 0.972 | 0.045 | 0.567 |
| C20:0 | FAT | 0.22 | 0.24 | 0.24 | 0.22 | 0.011 | 0.239 | 0.295 | 0.070 |
| C20:1 | FAT | 2.23 | 2.39 | 3.05 | 1.57 | 0.585 | 0.848 | 0.089 | 0.231 |
| C20:2 | FAT | 0.61 | 0.70 | 0.67 | 0.65 | 0.028 | 0.039 | 0.644 | 0.053 |
| C20:3 | FAT | 0.17 | 0.16 | 0.15 | 0.18 | 0.012 | 0.650 | 0.128 | 0.781 |
| C20:4 | FAT | 0.26 | 0.32 | 0.29 | 0.29 | 0.022 | 0.058 | 0.792 | 0.096 |
| C22:0 | FAT | 0.15 | 0.16 | 0.13 | 0.17 | 0.039 | 0.830 | 0.453 | 0.306 |
| C22:1 | FAT | 0.14 | 0.17 | 0.10 | 0.21 | 0.028 | 0.461 | 0.015 | 0.506 |
| C22:2 | FAT | 0.16 | 0.17 | 0.14 | 0.20 | 0.020 | 0.849 | 0.044 | 0.450 |
| C22:6 | FAT | 0.17 | 0.16 | 0.17 | 0.17 | 0.026 | 0.795 | 0.925 | 0.026 |
| C24:0 | FAT | 0.24 | 0.17 | 0.15 | 0.27 | 0.033 | 0.097 | 0.023 | 0.494 |

5

Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/ \sqrt{n} ; (n = 12) P, probability; significant when < 0.05 (shaded).

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TABLE 4
MUSCLE FATTY ACID COMPOSITION (%) IN NORMAL AND
AFFECTED PIGS

| FATTY ACID | TISSUE | SEX | | STEATOSIS | | P | | |
|------------|--------|-------|-------|-----------|--------|-------|-------|----------------|
| | | M | F | Affected | Normal | SEM | Sex | Steatosis S/ST |
| C14:0 | MUSCLE | 1.76 | 1.36 | 1.84 | 1.28 | 0.118 | 0.028 | 0.003 0.216 |
| C14:1 | MUSCLE | 0.15 | 0.13 | 0.09 | 0.18 | 0.026 | 0.583 | 0.025 0.101 |
| C15:0 | MUSCLE | 0.23 | 0.13 | 0.17 | 0.19 | 0.052 | 0.158 | 0.731 0.186 |
| C15:1 | MUSCLE | 0.53 | 0.63 | 0.27 | 0.89 | 0.074 | 0.390 | 0.001 0.026 |
| C16:0 | MUSCLE | 24.17 | 22.69 | 25.42 | 21.44 | 0.764 | 0.185 | 0.001 0.197 |
| C16:1 | MUSCLE | 3.45 | 3.08 | 3.43 | 3.11 | 0.128 | 0.053 | 0.095 0.736 |
| C17:0 | MUSCLE | 0.33 | 0.31 | 0.28 | 0.36 | 0.021 | 0.576 | 0.014 0.081 |
| C17:1 | MUSCLE | 0.28 | 0.28 | 0.27 | 0.29 | 0.015 | 0.839 | 0.266 0.195 |
| C18:0 | MUSCLE | 10.60 | 11.47 | 11.26 | 10.81 | 0.330 | 0.077 | 0.348 0.634 |
| C18:1 | MUSCLE | 41.45 | 41.44 | 42.87 | 40.02 | 1.217 | 0.995 | 0.114 0.065 |
| C18:2 | MUSCLE | 10.77 | 11.99 | 9.31 | 13.45 | 0.525 | 0.116 | 0.001 0.340 |
| C18:3 | MUSCLE | 0.88 | 0.90 | 0.82 | 0.96 | 0.046 | 0.775 | 0.044 0.675 |
| C20:0 | MUSCLE | 0.29 | 0.31 | 0.26 | 0.34 | 0.042 | 0.693 | 0.206 0.357 |
| C20:1 | MUSCLE | 1.44 | 1.51 | 1.42 | 1.53 | 0.387 | 0.909 | 0.845 0.171 |
| C20:2 | MUSCLE | 0.54 | 0.55 | 0.51 | 0.59 | 0.037 | 0.915 | 0.151 0.044 |
| C20:3 | MUSCLE | 0.33 | 0.32 | 0.22 | 0.43 | 0.046 | 0.930 | 0.004 0.050 |
| C20:4 | MUSCLE | 1.24 | 1.62 | 0.60 | 2.26 | 0.203 | 0.201 | 0.001 0.046 |
| C22:0 | MUSCLE | 0.21 | 0.22 | 0.12 | 0.31 | 0.034 | 0.931 | 0.001 0.045 |
| C22:1 | MUSCLE | 0.27 | 0.15 | 0.17 | 0.26 | 0.045 | 0.078 | 0.161 0.290 |
| C22:2 | MUSCLE | 0.32 | 0.28 | 0.19 | 0.41 | 0.043 | 0.445 | 0.002 0.360 |
| C22:6 | MUSCLE | 0.32 | 0.21 | 0.28 | 0.25 | 0.049 | 0.138 | 0.621 0.066 |
| C24:0 | MUSCLE | 0.41 | 0.41 | 0.21 | 0.61 | 0.074 | 0.953 | 0.001 0.236 |

5

Legend: MUSCLE, affected part of the muscle; M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/ \sqrt{n} ; (n = 12) P, probability; significant when < 0.05 (shaded).

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PCR amplification of messenger RNA (RT-PCR):

Separation of intramuscular fat and muscle fibers: In order to amplify the transcripts that correspond only to intramuscular fat or to muscle
5 fibers, pieces of semi-tendineous were taken from the freezer and immediately placed under a binocular. Separation of intramuscular fat from muscle fibers was performed manually using a thin needle. Samples of intramuscular fat and muscle fibers were immediately
10 transferred to tubes filled with 2 ml Trizol™ reagent (Gibco-BRL, Bethesda, MD). These tubes were kept at -80°C until needed.

RNA extraction: RNA was extracted in Trizol™ reagent according to the manufacturer's instructions.
15 The extracted RNA was dissolved in water and quantified spectrophotometrically at 260 nm. RNA aliquots were electrophoresed in a 1% agarose gel to verify their integrity.

Quantitative RT-PCR: For all samples, 5µg of RNA
20 was treated with 3 units of Dnase I (Amplification grade #8068-015, Gibco-BRL, Bethesda, MD) to remove contaminating genomic DNA. First strand cDNA was synthesized from 5 µg of total RNA from either intramuscular fat or muscle fibers, using a
25 SuperScript™ II preamplification system for first strand cDNA synthesis (Gibco BRL, Burlington, ON) and .500 ng of oligo (dT) 12-18 primer in a total reaction volume of 50 µl. An aliquot of 2 µl of the reverse transcriptase product was subjected to PCR
30 amplification.

The following RT-PCR were performed for intramuscular fat: ADRP, EGF, IGF1, IGF2 IGF1R, IGF2R, PDGFα, PDGFβ, TGFβ, aFGF, FGF-2, TGFα, leptin, LPL and

MEF2 as a control. In muscle fibers the following RT-PCR were performed: EGF, IGF1, IGF2 IGF1R, IGF2R, PDGF α , PDGF β , TGF β , aFGF, FGF-2, TGF α , LPL and leptin as a control.

- 5 For each gene, a 100 μ l PCR reaction contained either 15 pmol or 30 pmol of upstream and downstream primers (see Table 5), 200 μ M dNTPs, 1.5 mM MgCl₂ and 2.5 units of Taq[™] polymerase in 1X Taq[™] polymerase buffer (Amersham Pharmacia Biotech, Baie d'Urfée, QC).
- 10 Each gene's PCR profile was performed using a Programmable Thermal Controller PTC-100[™] (MJ Research Inc., Watertown, MA). The PCR amplifications consisted of an initial denaturation step at 94°C for 2 min, followed by variable cycle numbers of denaturation at
- 15 94°C for 1 min (see Table 5), annealing at different temperature for 1 min (see Table5), extension at 72°C for 1 min and a final extension at 72°C for 5 min. Pig glyceraldehyde-3-phosphate dehydrogenase (GAPDH) was also used as an internal control of amplification. For
- 20 GAPDH PCR amplification, the 100 μ l PCR reaction contained 30 pmol of upstream and 30 pmol of downstream primers (Table 5), 200 μ l dNTPs, 1.5 mM MgCl₂ and 2.5 units of Taq[™] polymerase in 1X polymerase buffer. The GAPDH PCR profile consisted of an initial denaturation
- 25 step at 94°C for 2 min, followed by 20 cycles of denaturation at 94°C for 1 min, annealing at 68°C for 1 min, extension at 72°C for 1 min and a final extension at 72°C for 5 min.

TABLE 5
PCR Conditions

| Sondes | Primer Site | Primer Sequence (5' - 3') | Position (pb) | size fragments | Genebank no | cycle numbers | Concentration oligo (pmoles) | Hybridation Temperature |
|--------|--------------------|--|------------------------|----------------|-------------|---------------|------------------------------|-------------------------|
| IGF 1 | Forward Reverse | 5' - GCA CAT CAC ATC CTC TTC GCA TC - 3' 5' - TGT ACT TCC TTC TGA GCC TTG GG - 3' | 15-37 331-353 | 338 | PIGGFIIA | 25 | 30 | 70 C |
| IGF 2 | Forward Reverse | 5' - GGT GGA CAC CCT CCA GTT TGT C - 3' 5' - GTG ACG CTT GGC CTC TCT GAC - 3' | 481-502 815-835 | 354 | SSIGF2 | 24 | 15 | 70 C |
| IGF1R | Forward Reverse | 5' - CGC ATG TGC TGG CAG TAC AAC C - 3' 5' - TGC GCG TAA GGC TGT CTC TCG - 3' | 19-40 306-326 | 307 | SSU15445 | 25 | 30 | 70 C |
| IGF2R | Forward Reverse | 5' - GGC CAA GTC CAA CTG CCG CTA C - 3' 5' - ACT CAT CCG CTG GAA GCC CG - 3' | 1-22 363-382 | 381 | SSU58650 | 25 | 30 | 70 C |
| aFGF | Forward Reverse | 5' - TGG CTG AAG GCG AAA TCA CAA CC - 3' 5' - TGA GTC CGA GGA CCG CGT TTG - 3' | 17-39 411-431 | 414 | SSAFGFRNA | 25 | 30 | 70 C |
| bFGF | Forward Reverse | 5' - ACG GAG GCT TCT TCC TGC GC - 3' 5' - CGT TCG TTT CAG TGC CAC GTA CC - 3' | 138-157 399-421 | 283 | SSBFGF | 24 | 15 | 70 C |
| EGF | Forward Reverse | 5' - ATC GGTACC GCA TGC TGA AGC CCT CAT CAC TGG - 3' 5' - ATC TCTAGA GCG CAG CTC CCA CCA TTT CAA GTC - 3' | 2607-2630 3482-3505 | 899 | HSEGFRRER | 25 | 15 | 65 C |

| Sondes | Primer Site | Primer Sequence (5' - 3') | Position (pb) | size fragments | Genebank no | cycle numbers | Concentration oligo (pmoles) | Hybridization Temperature |
|--------------------------|--------------------|---|------------------------|----------------|---------------|---------------|------------------------------|---------------------------|
| TGFa | Forward Reverse | 5' - CTT GTT GGC CGT GTG CCA GGC - 3' 5' - AGC GGT CCT TCC CTT CAG GAG GG - 3' | 54-74 443-465 | 411 | SSTGFA | 27 | 15 | 70 C |
| TGFb | Forward Reverse | 5' - AAG CGG AAG CGC ATC GAG G - 3' 5' - GCG GCC CAC GTA GTA CAC G - 3' | 570-588 1547-1565 | 995 | GGTGFB1 | 25 | 30 | 70 C |
| PDGFa | Forward Reverse | 5' - CCC GCG AGG TGA TCG AGA G - 3' 5' - GGC TTC TTC CTG ACG TAT TCC AC - 3' | 464-482 850-872 | 408 | HSPDGFAR | 24 | 15 | 70 C |
| PDGFb | Forward Reverse | 5' - CTC TGC TGC TAC CTG CGT CTG GTC - 3' 5' - GCG TCA CCG TGG CCT TCT TAA AG - 3' | 1013-1036 1474-1496 | 483 | HSPDGFB | 24 | 15 | 70 C |
| ADRP | Forward Reverse | 5' - ATC AAGCTT AAC AGA GCG TGG TGA TGA GAG TGG C - 3' 5' - ATC TCTAGA CCT ACC AGC CAG TTG AGA GGC G - 3' | 27-50 1181-1200 | 1173 | MMADRPCO D | 27 | 15 | 70 C |
| LEPTIN (ob) | Forward Reverse | 5' - GTC GAT TCC TGT GGC TTT GGC CC - 3' 5' - CTC CGT GGA GTA GAG GGA GGC TTC C - 3' | 74-96 459-483 | 409 | AF026976 | 24 | 15 | 70 C |
| LEPTIN (ob) (control) | Forward Reverse | 5' - GTC GAT TCC TGT GGC TTT GGC CC - 3' 5' - CTC CGT GGA GTA GAG GGA GGC TTC C - 3' | 74-96 459-483 | 409 | AF026976 | 35 | 15 | 70 C |
| MEF2 (control) | Forward Reverse | 5' - GCA TGA TGC CTC CAC TAT CGG AG - 3' 5' - AGA GCT GCT CAG ACT GTC CAC AGG - 3' | 1262-1284 1774-1797 | 535 | HSMEF2 | 35 | 30 | 70 C |

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| Sondes | Primer Site | Primer Sequence (5' - 3') | Position (pb) | size fragments | Genebank no | cycle numbers | Concen- tration oligo (pmoles) | Hybrida- tion Tempera- ture |
|--------------|----------------|--|------------------|-------------------|----------------|------------------|---|--------------------------------------|
| GAPDH | Forward | 5' - CTG GCA AAG TGG ACA TTG TCG CC - 3' | 28-50 | 571 | SSU48832 | 20 | 30 | 68 C |
| | Reverse | 5' - CTT GGC AGC GCC GGT AGA AGC - 3' | 579-599 | | | | | |
| Lipoproteine | Forward | 5' - GAG GGA ACC GGA TTC CAA CG - 3' | 475-494 | 709 | SSLPLRNA | 24 | 30 | 65 C |
| Lipase (LPL) | Reverse | 5' - AGG GCA TCT GAG CAC GAG TC - 3' | 1165-1184 | | | | | |

The amplified PCR fragments were electrophoresed on a 2.5% agarose gel and stained with ethidium bromide. Pictures of the resulting gels were taken on Polaroid film # 55. Films were then scanned using a densitometer (BIO-RAD™ Imaging Densitometer Model GS-670 Bio-Rad Laboratories Ltd., Mississauga, ON). The relative optical density of the transcripts is expressed in arbitrary optical units. A ratio of the optical density of each transcript, standardized using the GAPDH transcript, was calculated before statistical analyses were performed to correct for possible differences in gel loading. The results are shown in Tables 6, 7, 8 and in Figure 1 representing the RT-PCR analysis of FGF-2 gene expression in muscle fibers of healthy (normal) and steatotic (affected) pigs, and where is amplified mRNA specific to the genes GAPDH (fragment of 571 bp) as control, and FGF-2 (fragment of 282 bp) as differential MSMF marker.

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TABLE 6
EXPRESSION LEVELS (RT-PCR) OF DIFFERENT CANDIDATE
GENES IN INTRAMUSCULAR FAT OF NORMAL AND AFFECTED
PIGS

5

| GENE | SEX | | STEATOSIS | | | P | | |
|---------------|-------|-------|-----------|--------|-------|-------|-----------|-------|
| | M | F | Affected | Normal | SEM | Sex | Steatosis | S/ST |
| ADRP | 44.86 | 58.75 | 47.09 | 56.52 | 6.160 | 0.127 | 0.292 | 0.340 |
| EGF | 67.24 | 56.87 | 47.61 | 76.50 | 6.107 | 0.244 | 0.003 | 0.059 |
| IGF1 | 55.10 | 69.78 | 65.19 | 59.69 | 4.686 | 0.039 | 0.417 | 0.518 |
| IGF1R | 59.24 | 64.79 | 71.78 | 52.24 | 3.354 | 0.256 | 0.001 | 0.830 |
| IGF2 | 45.70 | 51.78 | 34.09 | 63.38 | 6.826 | 0.536 | 0.007 | 0.931 |
| IGF2R | 76.01 | 65.97 | 75.38 | 66.60 | 6.644 | 0.298 | 0.361 | 0.258 |
| PDGF α | 76.44 | 72.06 | 74.01 | 74.48 | 4.689 | 0.516 | 0.944 | 0.697 |
| PDGF β | 65.28 | 53.92 | 56.82 | 62.38 | 7.238 | 0.280 | 0.593 | 0.163 |
| TGF β | 58.62 | 68.10 | 55.30 | 71.42 | 7.473 | 0.381 | 0.143 | 0.945 |
| aFGF | 69.74 | 59.74 | 56.22 | 73.26 | 5.128 | 0.183 | 0.029 | 0.198 |
| FGF-2 | 37.79 | 51.46 | 53.38 | 35.87 | 3.198 | 0.007 | 0.001 | 0.001 |
| TGF α | 45.07 | 63.72 | 66.52 | 42.27 | 3.350 | 0.001 | 0.001 | 0.010 |
| Leptin | 53.50 | 64.15 | 68.81 | 48.83 | 3.231 | 0.030 | 0.001 | 0.040 |
| LPL | 76.23 | 60.19 | 65.92 | 70.49 | 5.389 | 0.048 | 0.556 | 0.281 |

10

Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/ \sqrt{n} ; P, probability; significant when < 0.05 (shaded). Values in this table correspond to relative optical density that were adjusted with respect to GAPDH transcript. For each gene, the highest expression value was considered 100% and transcripts of all pigs were adjusted relative to this pig.

TABLE 7
EXPRESSION LEVELS (RT-PCR) OF DIFFERENT CANDIDATE
GENES IN MUSCLE FIBERS OF NORMAL AND AFFECTED PIGS

| GENE | SEX | | STEATOSIS | | SEM | P | | |
|---------------|-------|-------|-----------|--------|-------|-------|-----------|-------|
| | M | F | Affected | Normal | | Sex | Steatosis | S/ST |
| FGF-2 | 56.32 | 50.21 | 36.72 | 69.81 | 5.167 | 0.413 | 0.001 | 0.960 |
| EGF | 64.94 | 65.38 | 69.84 | 60.49 | 6.317 | 0.962 | 0.308 | 0.171 |
| IGF1 | 66.76 | 61.17 | 64.91 | 63.02 | 3.371 | 0.254 | 0.695 | 0.278 |
| IGF1R | 85.96 | 78.93 | 80.29 | 84.60 | 2.259 | 0.040 | 0.192 | 0.564 |
| IGF2 | 72.96 | 49.09 | 55.68 | 66.38 | 6.215 | 0.013 | 0.238 | 0.720 |
| IGF2R | 75.98 | 57.28 | 73.43 | 59.83 | 5.418 | 0.024 | 0.091 | 0.706 |
| PDGF α | 68.76 | 51.01 | 66.70 | 53.07 | 3.959 | 0.005 | 0.024 | 0.254 |
| PDGF β | 69.38 | 63.33 | 57.01 | 75.70 | 3.983 | 0.295 | 0.003 | 0.230 |
| TGF α | 49.81 | 48.36 | 47.25 | 50.92 | 5.900 | 0.864 | 0.665 | 0.491 |
| aFGF | 67.98 | 57.86 | 64.64 | 61.21 | 8.418 | 0.406 | 0.776 | 0.809 |
| TGF β | 54.31 | 51.18 | 46.97 | 58.52 | 4.912 | 0.657 | 0.112 | 0.009 |
| LPL | 64.66 | 66.60 | 60.68 | 70.59 | 3.155 | 0.669 | 0.038 | 0.090 |

5

Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/ \sqrt{n} ; P, probability; significant when < 0.05 (shaded). Values in this table correspond to relative optical density that were adjusted with respect to GAPDH transcript. For each gene, the highest expression value was considered 100% and transcripts of all pigs were adjusted relative to this pig.

10

TABLE 8

INTRAMUSCULAR LEVELS OF FGF-2, TGFA AND LEPTIN.

| | normal females | normal males | affected females | affected males |
|-------------------|----------------|--------------|------------------|----------------|
| INTRAMUSCULAR FAT | | | | |
| FGF-2 | 34.20 | 37.54 | 68.71 | 38.05 |
| TGF α | 44.86 | 39.68 | 82.59 | 50.46 |
| Leptin | 49.13 | 48.54 | 79.17 | 58.46 |
| MUSCLE FIBERS | | | | |
| TGF β | 67.06 | 49.97 | 35.29 | 58.65 |

Values in this table correspond to relative optical density that were adjusted with respect to GAPDH transcript. For each gene, the highest expression value was considered 100% and transcripts of all pigs were adjusted relative to this pig.

EXAMPLE II

IDENTIFICATION OF MOLECULAR MARKERS

Experimental method

Animal selection and sampling : 48 castrated commercial pigs from a same producer were used. These pigs were allocated according to a two-by-two factorial design in complete blocks with, as principal effects, the level of steatosis (24 pigs with steatosis levels 3 4; 24 normal pigs) and the adiposity level (24 fat pigs with $P_2 \geq 22\text{mm}$ between third and fourth ribs; 24 lean pigs with $P_2 \leq 19\text{mm}$). The animals were selected at the slaughterhouse the morning of the day of slaughter using an ultrasound machine. For each selected pig, blood was drawn just prior to their slaughter. At slaughter, the entire left semi-tendinosus muscle was

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taken, the fat trimmed off and then cut transversally in order to evaluate the steatosis level. Wrongly identified pigs were immediately replaced by new pigs on the same day of slaughter. The two hams, the loin, 5 the flank, the liver and a sample of backfat were taken for further biochemical and genetic analysis.

Validation of results obtained : This part of the example has allowed us to confirm the results obtained in the preceding example. More precisely, we 10 have performed the following analyses:

Measure of vitamin E : Vitamin E in the liver was performed by HPLC (high performance liquid chromatography) according to the protocol of Bieri et al. (1979, Am. J. Clin. Nutri. 32 :2143-2149). First, 15 the lipids were extracted using organic solvents (hexane or heptane) and the analysis of the tocopherols was done on a C18 column (inverse phase) which permits a fine separation of the different tocopherols.

Total carnitine levels: It was determined in 20 plasma and in muscle, according to the radio-isotopic method developed by McGarry and Foster (1976, J. Lipid Res., 17 :277-281).

All carcass and meat quality analyses, including pH at 45 minutes and ultimate pH was performed on all 25 three studied muscles (semi-tendinosus, semi-membranosus and biceps femoris), and the loin and flank; allocation of the visual steatosis and marbling levels; determination of the percentage of dry matter of the loin, the flank and the three ham muscles; the 30 percentage of lipids in the loin, the flank and the semi-tendinosus; measures of the backfat and muscle thickness as well as the muscle surface at the site of carcass classification (between the 3rd and 4th last

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ribs); water retention by the loin, the flank and the three ham muscles; the levels of glucose in the lost water; total protein content. The incidence of PSE meat was evaluated by measuring the color on the ventral side of the *longissimus dorsi* in the middle of the loin as well as on the three ham muscles studied. Digital images were taken of the transversal cuts of the studied muscles.

Measure of sub-cutaneous and intra-muscular fatty acids by gas chromatography : The intra-muscular lipids (semi-tendinosus muscle) were extracted with chloroform-methanol, according to the method of Folch et al. (1957, J. Biol. Chem. 226 :592-596). Total fatty acids was esterified according to the method of AOAC Official Method 991.39 (1995) and then analyzed by gas chromatography.

Expression levels of the bFGF gene (basic growth factor of fibroblasts) in intra-muscular fat and in muscle fibers : For these analyses, we begun by manually separating the muscle fibers from the intra-muscular fat, under a binocular. This separation enabled us to evaluate the expression of bFGF specifically in intra-muscular fat and in muscle fibers. Once the separation has been completed, total RNA extracted and RT-PCR (Reverse Transcription-Polymerase Chain Reaction) analyses was performed for the bFGF gene. The RT-PCR analyses permitted us to quantify this gene's expression (i.e. the quantity of RNA expressed by this particular gene) and to verify if there are any differences between normal and affected pigs.

Comprehension of the mechanisms involved in the development of steatosis at the cellular and tissular

level : This aspect of the example permitted us to point out the mechanism of the development of steatosis.

Measure of bound carnitine: In the preceding example, no significant difference was observed in the levels of total carnitine in muscle. However, a significant increase was observed in plasmatic carnitine in pigs affected by steatosis. These results gave us no information concerning the proportion of carnitine bound to fatty acids and free carnitine. This permitted us to verify if there is indeed a problem with the association of carnitine to long-chain fatty acids.

Determination of the levels of vitamin E in the muscles studied: In the previous example, we observed that steatosis-affected pigs accumulate more vitamin E in their liver than do normal pigs. It is therefore necessary to measure the levels of vitamin E in the ham muscles in order to verify if there is less vitamin E in affected muscles, which could entail a higher oxidative stress to these muscles.

Measure of the peroxydation levels of fatty acids: The decrease of certain fatty acids (C15:1, C18:2 and C20:4) observed in the preceding example could be due to a higher peroxydation activity in affected muscles. In order to verify this, these levels of peroxydation in the semi-tendinosus muscle were measured according to the method of Witte et al. (1970, J. Food. Sci. 35 :582-585).

Identification of new, easily measurable metabolic or genetic factors : This section permitted us to identify other factors, such as fatty acids, proteins or genes which t permit us to rapidly

discriminate between affected and non-affected pigs, by way of simple fat tissue biopsies or blood samples.

Measure of the fatty acids present in red blood cells: This part of the example permitted us to
5 identify if there are differences in the fatty acid profiles of affected pigs. The identification of differences in one or more fatty acids in red blood cells permitted us to use the blood of animals to determine their steatosis levels by simple gas
10 chromatography analysis.

Identification of genes involved in the development of steatosis: To identify these genes, we have used a new molecular biology technique called "subtractive libraries". This technique has permitted
15 us to compare two populations of messenger RNA (expression levels of a gene) in order to obtain clones of genes that are expressed strongly in one population (steatosis-affected pigs) and weakly, or not at all, in the other (normal pigs) and vice-versa. In order to
20 help us achieve this aspect of the example, we have used two kits commercialized by CLONTECH: "PCR-Select Differential Screening Kit" and "PCR-Select cDNA Subtraction Kit". These analyses were performed on sub-cutaneous fat, intra-muscular fat and muscle fibers.

25 **Results**

Results of the second experiment are summarized in tables 9 to 16 respectively.

TABLE 9
CARNITINE ANALYSIS IN DIFFERENT TISSUES

| Variable | Tissue | Normal | | Affected | | SEM | P | | |
|---|--------|--------|-------|----------|-------|------|----------------|----------------|-------|
| | | Fat | Lean | Fat | Lean | | Adipo- sity | Stea- tosis | A/St |
| Carnitine (total) (nmoles/mg protein) | Muscle | 58.11 | 57.12 | 62.06 | 55.20 | 3.35 | 0.217 | 0.747 | 0.354 |
| Carnitine (free) (nmoles/mg protein) | Muscle | 39.23 | 37.14 | 39.87 | 35.02 | 2.73 | 0.183 | 0.774 | 0.592 |
| Carnitine (bound) (nmoles/mg protein) | Muscle | 18.88 | 19.98 | 22.19 | 20.18 | 1.78 | 0.785 | 0.300 | 0.357 |
| Carnitine (total) (umoles/liter) | Plasma | 25.98 | 30.78 | 36.91 | 41.19 | 4.88 | 0.325 | 0.024 | 0.954 |
| Carnitine (free) (umoles/liter) | Plasma | 16.98 | 21.32 | 25.33 | 25.18 | 2.64 | 0.400 | 0.017 | 0.368 |
| Carnitine (bound) (umoles/liter) | Plasma | 9.00 | 9.47 | 11.58 | 16.01 | 2.56 | 0.312 | 0.063 | 0.412 |

5 legend: Fat, backfat ≥ 22 mm; Lean, backfat ≤ 19 mm; A/St, adiposity*steatosis; SEM, standard deviation/ \sqrt{n} (n=12); P, probability; significant when $p < 0.05$ (shaded).

TABLE 10
VITAMIN E ANALYSIS IN DIFFERENT TISSUES

| Variable | Tissue | Normal | | Affected | | SEM | P | | |
|------------------------------------|--------------|--------|------|----------|------|-------|------------|------------|--------|
| | | Fat | Lean | Fat | Lean | | Adipo-sity | Stea-tosis | A/St |
| α -tocopherol (ug/g tissue) | liver | 2.14 | 2.04 | 3.81 | 3.55 | 0.147 | 0.244 | 0.000* | 0.594 |
| γ -tocopherol (ug/g tissue) | liver | 0.17 | 0.17 | 0.15 | 0.17 | 0.018 | 0.399 | 0.516 | 0.525 |
| α -tocopherol (ug/g tissue) | muscle | 0.86 | 0.96 | 1.16 | 1.05 | 0.078 | 0.975 | 0.022* | 0.215 |
| γ -tocopherol (ug/g tissue) | muscle | 0.21 | 0.25 | 0.26 | 0.24 | 0.022 | 0.581 | 0.564 | 0.241 |
| α -tocopherol (ug/g tissue) | muscle fiber | 1.02 | 1.01 | 0.44 | 1.17 | 0.135 | 0.012* | 0.140 | 0.012* |
| γ -tocopherol (ug/g tissue) | muscle fiber | 0.20 | 0.22 | 0.12 | 0.21 | 0.020 | 0.015* | 0.047* | 0.115 |

5 Legend: Fat, backfat ≥ 22 mm; Lean, backfat ≤ 19 mm; A/St, adiposity*steatosis; SEM, standard deviation/ \sqrt{n} ($n=12$); P, probability; significant when $p < 0.05$ (shaded). 0.000*, $p \leq 0.00001$.

TABLE 11

10 **PEROXIDATION LEVELS OF INTRA-MUSCULAR FAT BY THE THIOBARBITURIC ACID (TBA) METHOD (WHITE ZONE OF THE SEMI-TENDINOSUS MUSCLE)**

| Variable | Normal | | Affected | | SEM | P | | |
|----------|--------|-------|----------|-------|-------|------------|------------|-------|
| | Fat | Lean | Fat | Lean | | Adipo-sity | Stea-tosis | A/St |
| TBAJ0 | 0.144 | 0.155 | 0.128 | 0.179 | 0.018 | 0.051 | 0.924 | 0.180 |
| TBAJ4 | 0.177 | 0.212 | 0.217 | 0.241 | 0.022 | 0.151 | 0.123 | 0.845 |
| TBAJ9 | 0.201 | 0.221 | 0.318 | 0.288 | 0.391 | 0.891 | 0.015* | 0.489 |

TABLE 12
RED ZONE OF THE SEMI-TENDINOSUS MUSCLE

| Variable | Normal | | Affected | | SEM | P | | |
|----------|--------|-------|----------|-------|-------|----------------|----------------|-------|
| | Fat | Lean | Fat | Lean | | Adipo- sity | Steato- sis | A/St |
| TBAJ0 | 0.242 | 0.220 | 0.164 | 0.188 | 0.032 | 0.743 | 0.147 | 0.254 |
| TBAJ4 | 0.270 | 0.289 | 0.280 | 0.265 | 0.027 | 0.742 | 0.907 | 0.796 |
| TBAJ9 | 0.295 | 0.289 | 0.342 | 0.340 | 0.033 | 0.791 | 0.076 | 0.836 |

5 Legend: Fat, backfat ≥ 22 mm; Lean, backfat ≤ 19 mm; A/St, adiposity*steatosis; SEM, standard deviation/ \sqrt{n} (n=12); TBA, thiobarbituric acid; J0, J4, J9, days 0, 4 and 9 respectively; P, probability; significant when $p < 0.05$ (shaded).

10

TABLE 13
EXPRESSION LEVELS (RT-PCR) OF bFGF IN NORMAL AND
STEATOSIS-AFFECTED PIGS

| Variable | Normal | | Affected | | SEM | P | | |
|------------------------------------|--------|-------|----------|-------|------|----------------|----------------|-------|
| | Fat | Lean | Fat | Lean | | Adipo- sity | Steato- sis | A/St |
| bFGF muscle fibers (ng ratio) | 0.790 | 0.956 | 0.572 | 0.606 | 0.13 | 0.403 | 0.022 | 0.582 |
| bFGF intra-muscular fat (ng ratio) | 1.259 | 1.175 | 1.671 | 2.135 | 0.24 | 0.386 | 0.003 | 0.214 |

15

20 Legend: Fat, backfat ≥ 22 mm; Lean, backfat ≤ 19 mm; A/St, adiposity*steatosis; SEM, standard deviation/ \sqrt{n} (n=12); P, probability; significant when $p < 0.05$ (shaded). The values in the table represent the quantity in ng calculated according to a standard curve. The relative values are standardized according to the pig with the highest level of mRNA expression.

TABLE 14
ERYTHROCYTE FATTY ACID COMPOSITION (%) IN NORMAL AND
AFFECTED PIGS

| Fatty acid | Normal | | Affected | | SEM | P | | |
|------------|--------|-------|----------|-------|-------|-----------|-----------|-------|
| | Fat | Lean | Fat | Lean | | Adiposity | Steatosis | A/St |
| C14:0 | 0.22 | 0.23 | 0.21 | 0.22 | 0.012 | 0.374 | 0.651 | 0.830 |
| C15:0 | 0.16 | 0.17 | 0.13 | 0.14 | 0.015 | 0.444 | 0.062 | 0.640 |
| C16:0 | 21.05 | 20.95 | 20.66 | 20.99 | 0.382 | 0.772 | 0.657 | 0.583 |
| C16:1 | 0.56 | 0.60 | 0.55 | 0.55 | 0.022 | 0.361 | 0.227 | 0.449 |
| C17:0 | 0.78 | 0.76 | 0.66 | 0.75 | 0.040 | 0.447 | 0.132 | 0.163 |
| C17:1 | 0.18 | 0.18 | 0.18 | 0.19 | 0.013 | 0.868 | 0.937 | 0.847 |
| C18:0 | 16.46 | 17.18 | 15.92 | 16.67 | 0.339 | 0.041 | 0.138 | 0.962 |
| C18:1n9t | 0.97 | 0.99 | 0.93 | 0.96 | 0.026 | 0.306 | 0.227 | 0.889 |
| C18:1n9c | 21.46 | 20.87 | 19.70 | 21.63 | 0.906 | 0.472 | 0.594 | 0.181 |
| C18:1c11 | 0.87 | 0.92 | 0.80 | 0.86 | 0.021 | 0.010 | 0.003 | 0.647 |
| C18:2n6c | 31.38 | 30.91 | 34.31 | 30.73 | 1.306 | 0.137 | 0.311 | 0.251 |
| C18:3n3 | 0.31 | 0.34 | 0.36 | 0.36 | 0.027 | 0.607 | 0.221 | 0.648 |
| C20:0 | 0.13 | 0.11 | 0.11 | 0.13 | 0.007 | 0.526 | 0.838 | 0.023 |
| C20:1 | 0.22 | 0.20 | 0.22 | 0.19 | 0.017 | 0.179 | 0.556 | 0.697 |
| C20:2 | 0.31 | 0.30 | 0.26 | 0.29 | 0.009 | 0.310 | 0.003 | 0.016 |
| C20:3n6 | 0.51 | 0.46 | 0.42 | 0.46 | 0.025 | 0.995 | 0.103 | 0.114 |
| C20:4n6 | 4.31 | 4.70 | 4.47 | 4.74 | 0.187 | 0.088 | 0.610 | 0.765 |
| C22:0 | 0.12 | 0.13 | 0.12 | 0.14 | 0.014 | 0.285 | 0.914 | 0.757 |

5

Legend: Fat, backfat ≥ 22 mm; Lean, backfat ≤ 19 mm; A/St, adiposity*steatosis; SEM, standard deviation/ \sqrt{n} ($n=12$); P, probability; significant when $p < 0.05$ (shaded).

10

TABLE 15
BACKFAT FATTY ACID COMPOSITION (%) IN NORMAL AND
AFFECTED PIGS

| Fatty acid | Normal | | Affected | | SEM | P | | |
|------------|--------|-------|----------|-------|-------|-----------|-----------|-------|
| | Fat | Lean | Fat | Lean | | Adiposity | Steatosis | A/St |
| C14:0 | 1.65 | 1.55 | 1.60 | 1.51 | 0.033 | 0.008 | 0.227 | 0.861 |
| C16:0 | 27.73 | 25.86 | 27.62 | 25.92 | 0.324 | 0.000 | 0.954 | 0.792 |
| C16:1 | 2.63 | 2.62 | 2.41 | 2.41 | 0.075 | 0.936 | 0.009 | 0.911 |
| C17:0 | 0.28 | 0.29 | 0.25 | 0.29 | 0.013 | 0.101 | 0.167 | 0.452 |
| C17:1 | 0.28 | 0.29 | 0.23 | 0.27 | 0.013 | 0.073 | 0.035 | 0.289 |
| C18:0 | 12.59 | 12.00 | 14.60 | 13.78 | 0.219 | 0.003 | 0.000 | 0.596 |
| C18:1n9t | 0.63 | 0.65 | 0.64 | 0.70 | 0.033 | 0.249 | 0.371 | 0.671 |
| C18:1n9c | 29.57 | 29.10 | 28.81 | 28.95 | 0.342 | 0.644 | 0.196 | 0.386 |
| C18:1c11 | 1.73 | 1.74 | 1.61 | 1.65 | 0.034 | 0.525 | 0.004 | 0.677 |
| C18:2n6t | 0.13 | 0.14 | 0.12 | 0.13 | 0.003 | 0.005 | 0.029 | 0.211 |
| C18:2n6c | 19.39 | 22.23 | 18.81 | 21.00 | 0.425 | 0.000 | 0.044 | 0.457 |
| C18:3n3 | 0.79 | 0.91 | 0.73 | 0.84 | 0.024 | 0.00002 | 0.016 | 0.883 |
| C20:0 | 0.19 | 0.15 | 0.21 | 0.18 | 0.011 | 0.005 | 0.050 | 0.662 |
| C20:1 | 1.13 | 1.05 | 1.12 | 1.04 | 0.039 | 0.050 | 0.822 | 0.963 |
| C20:2 | 0.64 | 0.69 | 0.62 | 0.66 | 0.014 | 0.003 | 0.054 | 0.872 |
| C20:3n6 | 0.13 | 0.12 | 0.11 | 0.11 | 0.009 | 0.664 | 0.150 | 0.419 |
| C20:3n3 | 0.13 | 0.14 | 0.12 | 0.12 | 0.004 | 0.043 | 0.010 | 0.252 |
| C20:4n6 | 0.21 | 0.26 | 0.21 | 0.25 | 0.009 | 0.00003 | 0.527 | 0.479 |
| C21:0 | 0.18 | 0.22 | 0.17 | 0.19 | 0.009 | 0.005 | 0.017 | 0.408 |

5

Legend: Fat, backfat ≥ 22 mm; Lean, backfat ≤ 19 mm; A/St, adiposity*steatosis; SEM, standard deviation/ \sqrt{n} ($n=12$); P, probability; significant when $p < 0.05$ (shaded); 0.000*, $p \leq 0.00001$.

10

TABLE 16
MUSCLE FATTY ACID COMPOSITION (%) IN NORMAL AND AFFECTED
PIGS

| Fatty acid | Normal | | Affected | | SEM | P | | |
|------------|--------|-------|----------|-------|-------|-----------|-----------|-------|
| | Fat | Lean | Fat | Lean | | Adiposity | Steatosis | A/St |
| C14:0 | 1.47 | 1.41 | 1.67 | 1.47 | 0.040 | 0.002 | 0.003 | 0.109 |
| C16:0 | 28.76 | 27.74 | 30.70 | 28.55 | 0.313 | 0.00001 | 0.0001 | 0.087 |
| C16:1 | 3.10 | 3.10 | 3.23 | 2.87 | 0.144 | 0.233 | 0.753 | 0.227 |
| C17:0 | 0.21 | 0.20 | 0.18 | 0.21 | 0.011 | 0.544 | 0.259 | 0.183 |
| C17:1 | 0.23 | 0.24 | 0.20 | 0.23 | 0.013 | 0.087 | 0.133 | 0.337 |
| C18:0 | 14.41 | 13.70 | 15.18 | 14.81 | 0.315 | 0.101 | 0.006 | 0.595 |
| C18:1n9t | 0.77 | 0.84 | 0.85 | 0.84 | 0.041 | 0.487 | 0.346 | 0.385 |
| C18:1n9c | 27.36 | 27.15 | 28.46 | 28.27 | 0.570 | 0.734 | 0.063 | 0.992 |
| C18:1c11 | 2.03 | 2.11 | 1.97 | 1.95 | 0.063 | 0.657 | 0.093 | 0.459 |
| C18:2n6c | 17.82 | 19.22 | 14.40 | 17.23 | 0.565 | 0.001 | 0.00003 | 0.226 |
| C18:3n3 | 0.55 | 0.59 | 0.51 | 0.56 | 0.028 | 0.135 | 0.317 | 0.895 |
| C20:0 | 0.15 | 0.12 | 0.18 | 0.16 | 0.011 | 0.024 | 0.002 | 0.976 |
| C20:1 | 0.84 | 0.86 | 0.89 | 0.89 | 0.032 | 0.751 | 0.223 | 0.713 |
| C20:2 | 0.42 | 0.46 | 0.40 | 0.45 | 0.015 | 0.004 | 0.323 | 0.606 |
| C20:3n6 | 0.25 | 0.28 | 0.16 | 0.20 | 0.018 | 0.058 | 0.00004 | 0.780 |
| C20:4n6 | 1.52 | 1.87 | 0.90 | 1.20 | 0.122 | 0.013 | 0.00001 | 0.849 |
| C21:0 | 0.11 | 0.11 | 0.11 | 0.11 | 0.009 | 0.941 | 0.840 | 0.682 |

5

Legend: Fat, backfat ≥ 22 mm; Lean, backfat ≤ 19 mm; A/St, adiposity*steatosis; SEM, standard deviation/ \sqrt{n} ($n=12$); P, probability; significant when $p < 0.05$ (shaded).

10

In conclusion, the present experiment demonstrates clearly that several MSMF are correlated with the steatotic state in pigs. It has been determined that the muscular superoxide dismutase, and hepatic Vitamin E are correlated with the muscular steatosis. In addition, it can be seen from the present results that fatty acids have a direct relation with the muscular steatosis, as well in sub-cutaneous as muscular samples. Also, from the RT-PCR discrimination performed in fat or muscular samples, it was observed that EGF, IGF1R, IGF2, aFGF, FGF-2, TGF α , PDGF α , PDGF β , LPL, and the Leptin are each one good markers in determining the steatosis status of animals.

15

20

Most particularly, the present invention shows that amplification of selected MSMF, it is to say the Leptin, FGF-2 and IGF1R are particularly accurates for identifying differential genetic expression in
5 diagnosing the steatosis. The FGF-2 allows discrimination of steatotic pigs in 91.67 percent. Combination of factors makes possible to select non-steatotic from steatotic individuals in closed to 99 percents of the cases.

10 While the invention has been described in connection with specific embodiments thereof, it has been understood that it is capable of further modifications and this application is intended to cover any variations, uses, or adaptations of the invention following,
15 in general, the principles of the invention and including such departures from the present disclosure as come within known or customary practice within the art to which the invention pertains and as may be applied to the essential features herein before set
20 forth, and as follows in the scope of the appended claims.

WHAT IS CLAIMED IS:

1. A method for prognosis or diagnosis of muscular steatosis based on the level of muscular steatosis-modulating factor (MSMF) in a human or animal, which comprises the steps of:

- a) measuring level of at least one MSMF in a biological sample of said human or animal, and
- b) comparing the level of MSMF measured in the biological sample of said human or animal with the level of MSMF measured in a biological sample of a healthy human or animal, wherein a difference indicates predisposition or occurrence of steatosis.

2. A method according to claim 1, wherein said animal is selected from the group consisting of mammal and avian.

3. A method according to claim 1, wherein said animal is selected from the group consisting of porcine, bovine, ovine, caprine, chicken, turkey, horse, goat, canine, and feline.

4. A method according to claim 1, wherein said measuring of step a) is performed by identifying differential expression of MSMF gene.

5. A method according to claim 4, wherein said MSMF gene comprises a nucleic acid sequence selected from

the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

6. A method according to claim 1, wherein said MSMF is selected from the group consisting of growth hormone, growth factor, cytokine, growth factor receptor, growth hormone receptor, cytokine receptor, and lipid.

7. A method according to claim 1, wherein said MSMF is IGF1, IGF2, α FGF, FGF-2, ADRP, IGF1R, PDGF α , TGF β , TGF α , LPL, EGF, PDGF β , Leptin, superoxide dismutase, carnitine, creatine kinase, a vitamin, or a combination thereof.

8. A method according to claim 1, wherein said biological sample is blood, serum, plasma, a biopsy, fat, saliva, feces, or urine.

9. A method according to claim 1, wherein said measuring MSMF of step a) consists of measuring the level of at least one peptide, precursor, metabolite, or a messenger RNA of MSMF.

10. A method according to claim 9, wherein said messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

11. A method according to claim 9, wherein said messenger RNA is corresponding to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

12. A method for the treatment of muscular steatosis in a human or an animal, which comprises regulating MSMF level substantially equivalent to that of a healthy human or a healthy animal.

13. A method according to claim 12, wherein said regulation is performed by administering an agonist of MSMF, an antagonist of MSMF, or a combination thereof.

14. A method according to claim 13, wherein said agonist of MSMF is a MSMF.

15. A method according to claim 13, wherein said agonist of MSMF is a recombinant MSMF, a precursor of MSMF, a non-mature MSMF, an analog of MSMF, a purified MSMF, or a physiologically active fragment of at least one MSMF.

16. A method according to claim 13, wherein said agonist of MSMF is an abzyme.

17. A method according to claim 13, wherein said antagonist of MSMF is an inhibitor of MSMF.

18. A method according to claim 13, wherein said antagonist of MSMF is an abzyme.

19. A method according to claim 13, wherein said antagonist of MSMF is selected from the group consisting of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, and a mutant MSMF.

20. A method according to claim 19, wherein said anti-MSMF messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

21. A method according to claim 19, wherein said anti-MSMF messenger RNA is corresponding to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

22. A method according to claim 13, wherein said agonist of MSMF, antagonist of MSMF, or combination thereof is administered by introducing at least one expression vector into the human or the animal.

23. A method according to claim 22, wherein the expression vector is introduced into at least one cell, and said cell is introduced into the human or the animal.

24. A method according to claim 13, wherein the agonist of MSMF or the antagonist of MSMF is administered systemically, orally, or intravenously, using an implant or a slow delivery system.

25. A method for causing muscular steatosis in an animal for increasing fat content, which comprises the step of administering to said animal a sufficient amount of at least one agonist of MSMF, an antagonist of MSMF, or a combination thereof, for deregulating MSMF in said animal to a level different from the level of MSMF of a healthy animal.

26. A method according to claim 25, wherein said agonist of MSMF is a MSMF.

27. A method according to claim 25, wherein said agonist of MSMF is selected from the group consisting of recombinant MSMF, precursor of MSMF, non-mature MSMF, analog of MSMF, purified MSMF, and a physiologically active fragment of a MSMF.

28. A method according to claim 27, wherein said agonist of MSMF is an abzyme.

29. A method according to claim 25, wherein said antagonist of MSMF is a MSMF.

30. A method according to claim 25, wherein said antagonist of MSMF is an abzyme.

31. A method according to claim 25, wherein said antagonist is selected from the group consisting of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, a synthetic antisenses, a natural antisenses, and a mutant MSMF.

32. A method according to claim 31, wherein said anti-MSMF messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

33. A method according to claim 31, wherein said anti-MSMF messenger RNA is corresponding to a nucleic

acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

34. A method according to claim 25, wherein said agonist, antagonist, or combination thereof is administered by introducing at least one expression vector into the animal.

35. A method according to claim 34, wherein said expression vector is introduced into at least one cell, and said cell is introduced into said animal.

36. A method according to claim 25, wherein an agonist or antagonist is administered systemically, orally, or intravenously, using an implant or a slow delivery system.

37. A method according to claim 35, wherein said muscular steatosis is caused in said animal by administering an agonist of MSMF, an antagonist of MSMF, or a combination thereof.

38. A compound of the group of MSMF for the treatment of muscular steatosis in a human or an animal patient.

39. A compound according to claim 38, which is selected from the group consisting of an agonist of MSMF and an antagonist of MSMF, or a combination thereof.

40. A compound according to claim 39, wherein said agonist of MSMF is a MSMF.

41. A compound according to claim 39, wherein said agonist is a recombinant MSMF, a precursor of MSMF, a non-mature MSMF, an analog of MSMF, a purified MSMF, or a physiologically active fragment of a MSMF.

42. A compound according to claim 39, wherein said agonist of MSMF is an abzyme.

43. A compound according to claim 39, wherein said antagonist of MSMF is a MSMF.

44. A compound according to claim 39, wherein said antagonist of MSMF is an abzyme.

45. A compound according to claim 39, wherein said antagonist of MSMF is selected from the group consisting of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, and a mutant MSMF.

46. A method according to claim 45, wherein said anti-MSMF messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

47. A method according to claim 45, wherein said anti-MSMF messenger RNA is corresponding to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

48. A compound according to claim 39, wherein said agonist of MSMF, antagonist of MSMF or combination

thereof is administered by introducing at least one expression vector into the human or the animal patient.

49. A compound according to claim 48, wherein said expression vector is introduced into at least one cell, and said cell is introduced into said human or said animal patient.

50. A compound according to claim 39, wherein said agonist of MSMF or antagonist of MSMF is administered systemically, orally, or intravenously, using an implant or a slow delivery system.

51. A compound of the group of MSMF for causing muscular steatosis in an animal.

52. A compound according to claim 51, which is selected from the group consisting of an agonist of MSMF and an antagonist of MSMF, or a combination thereof.

53. A compound according to claim 51, wherein said agonist of MSMF is a MSMF.

54. A compound according to claim 52, wherein said agonist of MSMF is a recombinant MSMF, a precursor of MSMF, a non-mature MSMF, an analog of MSMF, a purified MSMF, or a physiologically active fragment of a MSMF.

55. A compound according to claim 52, wherein said agonist of MSMF is an abzyme.

56. A compound according to claim 52, wherein said antagonist of MSMF is a MSMF.

57. A compound according to claim 52, wherein said antagonist of MSMF is an abzyme.

58. A compound according to claim 52, wherein said antagonist of MSMF is selected from the group consisting of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, and a mutant MSMF.

59. A compound according to claim 58, wherein said anti-MSMF messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

60. A compound according to claim 58, wherein said anti-MSMF messenger RNA is corresponding to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

61. A compound according to claim 52, wherein said agonist of MSMF, antagonist of MSMF or combination thereof is administered by introducing at least one expression vector into the animal.

62. A compound according to claim 61, wherein said expression vector is introduced into at least one cell, and said cell is introduced into said animal.

63. A compound according to claim 52, wherein said agonist of MSMF or antagonist of MSMF is administered

systemically, orally, or intravenously, using an implant or a slow delivery system.

64. Use of a compound as defined in any one of claims 38 to 50 for treating muscular steatosis.

65. Use of a compound as defined in any one of claims 51 to 63 for causing muscular steatosis.

66. Use of a compound of the group of MSMF in the manufacture of a medicament for treating muscular steatosis.

67. Use of a compound as defined in any one of claims 38 to 50 in the manufacture of a medicament for treating muscular steatosis.

68. Use of a compound of the group of MSMF in the manufacture of a medicament for causing muscular steatosis.

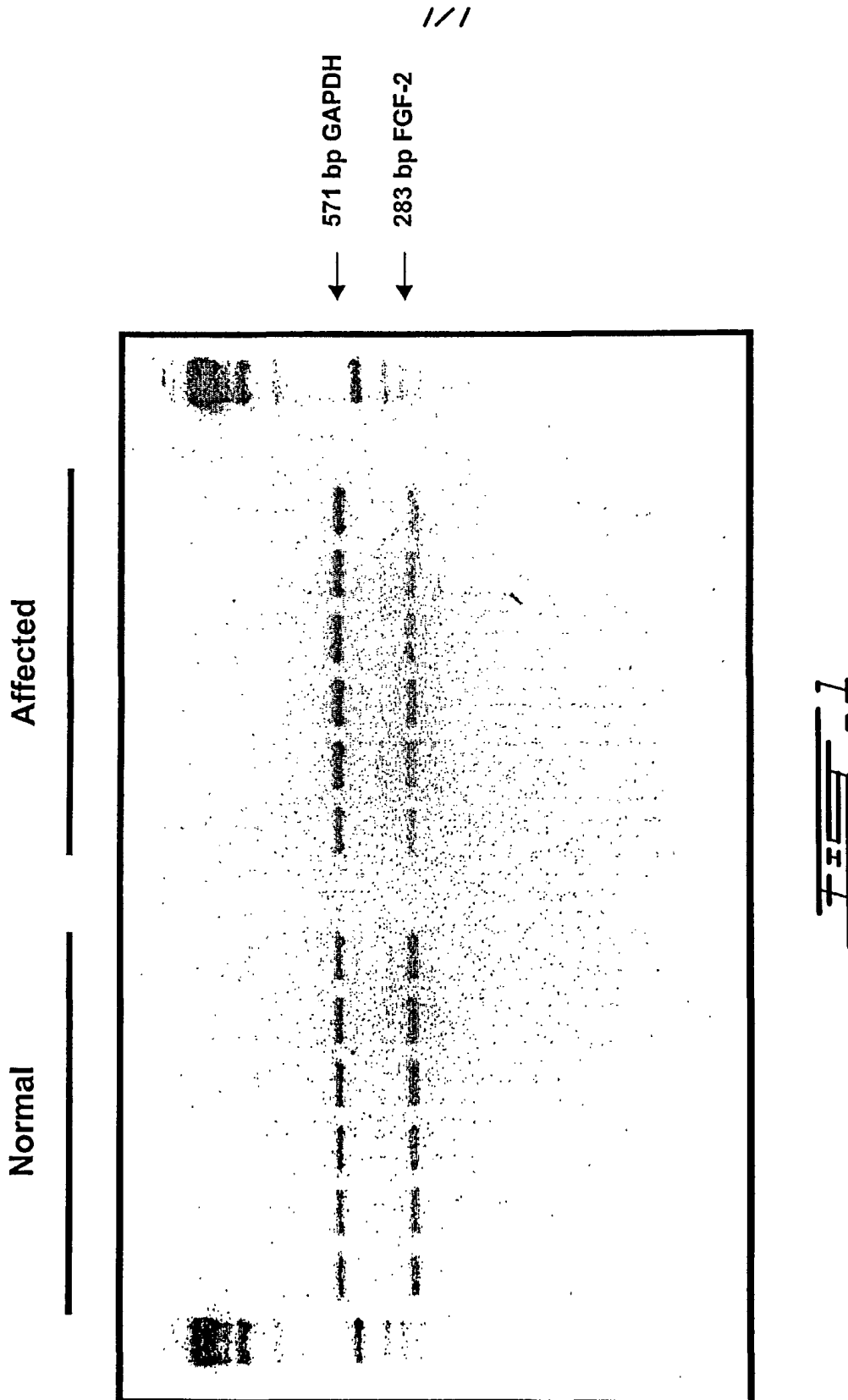
69. Use of a compound as defined in any one of claims 51 to 63 in the manufacture of a medicament for inducing muscular steatosis.

70. A pharmaceutical composition comprising a compound as defined in any one of claims 38 to 50 in association with a pharmaceutical acceptable carrier.

71. A pharmaceutical composition for use in the treatment of muscular steatosis comprising a therapeutically acceptable and effective amount of a

compound of the group of MSMF in association with a pharmaceutically acceptable carrier.

72. A pharmaceutical composition for use in causing muscular steatosis comprising a therapeutically acceptable and effective amount of a compound of the group of MSMF in association with a pharmaceutically acceptable carrier.



SEQUENCE LISTING

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 PALIN, Marie-France
 POMAR, Candido
 GARIÉPY, Claude

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 Porcine

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| ggccatcaat ttcatcacia caattatcaa tataaaaccc cctgacccta cctgcccggg | 540 |
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| aacgtcgtga ctgggaaaac cctggcgtaa cccaacttaa tcgccttgca gacattcccc | 720 |
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 Porcine

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| ctattattcg gcgcatgagc tggagtccca ggcacagctc taagcctcct tattcgagcc | 120 |

| | | | | | | |
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| gcccattgcat | ttgtaataat | cttcttcata | gtaataccca | tcataatcgg | aggctttggc | 240 |
| aactgactag | ttccccta | aatcgggtg | cccgatatgg | cgtttccccg | cataaacaac | 300 |
| ataagcttct | gactcttacc | tccctctctc | ctactcctgc | tcgcatctgc | tatagtgagg | 360 |
| gccggagcag | gaacagggtg | aacagtctac | cctcccttag | cagggaaacta | ctcccaccct | 420 |
| ggagcctccg | tagacctaac | catcttctcc | ttacacctag | caggtgtctc | ctctatctta | 480 |
| ngggccatca | atcttcatca | caacaattat | caatataaaa | ccccctgacc | ctcacctgcc | 540 |
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| catgcatcta | gagggcccaa | ttcgccctat | agtgagtcgt | attacaatta | ctggccgtcg | 660 |
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Muscular steatosis

Porcine

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| ctatacctat | tattcggcgc | atgagctgga | gtcctaggca | cagctctaag | cctccttatt | 120 |
| cgagccgagc | tgggccagcc | aggcaacott | ctaggtaacg | accacatcta | caacgttatc | 180 |
| gtcacagccc | atgcatttgt | aataatcttc | ttcatagtaa | tacctatcat | aatcggaggc | 240 |
| tttggcaact | gactagtctc | cctaataatc | ggtgcccccg | atatggcggt | tccccgcata | 300 |
| aacaacataa | gcttctgact | cttacctccc | tctctcctac | tcctgctcgc | atctgctata | 360 |
| gtggaggccg | gagcaggaac | aggttgaaca | gtctaccctc | ccttagcagg | gaactactcc | 420 |
| caccttgagg | cctccgtaga | cctaaccatc | ttctccttac | acctagcagg | tgtctcctct | 480 |
| atcttanggg | ccatcaattt | catcacaaca | attatcaata | taaaaccccc | tgaccttacc | 540 |
| tgcccggggc | gncgctcgaa | agccgaattc | tgcagatata | catcacactg | gcggncgntc | 600 |
| gagcatgcat | ctanagggcc | aattcgnoc | atagttagtc | gtattacaat | tcactggccg | 660 |
| cgntttacaa | cgctcgtgact | gggaaaaccc | tggcggtacc | caacttaatc | gccttgacgc | 720 |
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Muscular steatosis

Porcine

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3/122

| | | | | | | |
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Muscular steatosis
Porcine

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| tattcggtac | annccangcc | tttggaatna | tctntttnat | nanaatnccc | ntnntnannc | 240 |
| gnggggtttng | ncannngnta | mnttcccnna | tnatngngn | ccccnatatn | gnggggttccc | 300 |
| cngattaacn | acattagctt | ttggatctta | ccttccttnt | ttctactnct | gntngcattn | 360 |
| gngatatatg | ngagggggccg | agcacggnaa | cgngtanaana | nantatnccc | tcttttncgg | 420 |
| ggatanmntc | acncnggggn | ncnnctggnn | ctaancantt | ttcctttacc | cntaangng | 480 |
| tcccctatat | tntngggggc | ncaattttnt | acaccanntt | ttntntanaa | accccnnggg | 540 |
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| gatgcgagta | atgcggatgt | gttttaggag | gggacttcta | ggggatttag | tgggggtgatg | 180 |
| cctgttgggg | gccagtgcc | tcctagttgg | ggggtagggg | ctagactgga | gtggtaaaag | 240 |
| gctcagaaaa | atcctgcgaa | gaaaaaaact | tctgaggtaa | taaataggat | tatcccgtat | 300 |
| cgaaggcctt | tttgacagag | tggtgtgtgg | tggccttggt | atgtgctttc | tcgtgttaca | 360 |
| tcgcgccacc | attggtatat | ggttagtgtg | ttggttagta | ggcctagtag | gaggagcgtt | 420 |
| atggagtgga | agtgaatca | catggctagg | cccggaggtc | attaggaggg | cttaaagggc | 480 |
| ccccttggtt | aggggtcatg | gcctgggttt | tactatatga | taggcattgt | attgggtgggt | 540 |
| cattgtgtgt | tngtcgtgca | ngtanaaggc | ttactagaag | ttgtgnaaac | cgtagcttgg | 600 |
| gattaaggcg | acagctgatt | tctaggatag | tcagttnaat | ttanaattgg | naaagatgat | 660 |
| tatgtgttan | agggaagggt | taattggnt | atattgctag | gggtggccct | tccaattang | 720 |
| tgcattgaat | nanctggggc | cgcanttatt | gttancggnt | aagcntnaen | tnnccnggcg | 780 |
| gnncgttcga | angccnnatt | ccannanact | tngnnccggt | nctanttn | | 828 |

<210> 7

<211> 912

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

```

<400> 7
tgactnccct tngntaatnc ctttttttta agaccctcat caatagatgg agacntncag      60
aaatagtcaa accacatnta caaaatgccg gtatnaggcg gtggcttcna agccaaagtg      120
atgtttggat gtaaagngaa atattanttg gcggatgaag cagatngtga ggaaagtga      180
nccaataatg acntgaagtc cgtggaagcc tgtggctnca aaaaatgttg agccgtaaat      240
gccgtcggaa atgggtgaagg gagactcnaa gtnttctgag gcttgtnnga gggtaaaatn      300
gagacccagt aaaattgtaa taagcagtcg ttgaattatt tggtttcggg tgntttctnt      360
taaactatgg tgagctcagg tgattgatac tcctgatgcg agtaatacgg atgtgttttag      420
gagtgggact tntaggggat ttancggggg gatgcctntt gggggccant gccctcctaa      480
ttgggggggta ggggctaggc tgggaatggtt aaaggctcan aaaaatcctg ccaagaaaaa      540
aacttctgag gtaataaata ggattatccc atttnnaang ccttttttgg acaagtgggtg      600
tgtggngggc cttgggatgt gctttctcgn gttacatttg ngcccntcnt ttggtatatn      660
ggttnanngg gttgggttan tangccntaa ttttnaanga gccnttattg gantnggaaa      720
ntggaaattc acattgggnt anggcccgga gggtnatttt nggagggcct aaaaanggcc      780
ccttttnagg gtcattgggc ctgggtttta ctatttnatt ggccttttac cttcccgggc      840
gggccgttnn aaagccnaat ttcnncncac ttgggggggc ntttctangg gacccaact      900
tgncccaac nn                                     912

```

```

<210> 8
<211> 827
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

```

```

<400> 8
acatgcctat catatagtaa aaccagccc atgaccoccta acagggggccc tctcagccct      60
cctaatagacc tccggcctag ccatgtgatt tcacttccac tccataaocg tcctcatact      120
aggcctacta accaacacac taaccatata ccaatgatgg cgcgatgtaa cagagaaag      180
cacataccaa ggccaccaca caccacctgt ccaaaaaggc cttcgatacg ggataatcct      240
atattattacc tcagaagttt ttttcttcgc aggatttttc tgagcctttt accactccag      300
cctagcccct acccccctaat taggagggca ctggccccc aacaggcatca ccccgctaaa      360
tcccctagaa gtcccactcc taaacacatc cgtattactc gcatcaggag tatcaatcac      420
ctgagctcac catagtctaa tagaaaacaa ccgaaaccaa ataattcaag cactgcttat      480
tacaatttta ctgggtctct attttaccct nctacaagcc tcagagtacc tgcccgggcg      540
gccgctcgaa agccgaattc tgcagatata catcacactg gcgggcgctc gagcatgcat      600
ctagagggcc caattcgctt atagngatcg tattacaatt cactggccgt cgntttacaa      660
cgtcgtgact gggaaaaccc tggcgttacc caacttaatc gccttgcaac acatnccct      720
ttcgccagct ggcgtataan cgaaaaagcc ccgaccgatc ggccttccaa cagttggnca      780
acctgaatgg cgaatggacc cccctgtacc ggnccattaa cgcgggg      827

```

```

<210> 9
<211> 833
<212> DNA
<213> Artificial Sequence.

```

```

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

```

```

<400> 9
catgcctatc atatagtaaa acccagccca tgaccocctaa cagggggccct ctcagccctc      60
ctaatagacct ccggcctagc catgtgattt cacttocact ccataacgct cctcatacta      120
ggcctactaa ccaacacact aaccatatac caatgatggc gcgatgtaac acgagaaagc      180
acataccaag gccaccacac accacctgtc caaaaaggcc ttcgatacgg gataatccta      240
tttattacct cagaagtttt tttcttcgca ggatttttct gagcctttta ccactccagc      300

```

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| ctagccccta | ccccccaatt | aggagggcac | tggcccccaa | caggcatcac | cccgctaaat | 360 |
| cccctagaag | tcccaactcct | aaacacatcc | gtattactcg | catcaggagt | atcaatcacc | 420 |
| tgagctcacc | atagtctaata | agaaaacaac | cgaacccaaa | taattcaagc | actgcttatt | 480 |
| acaattttac | tgggtctcta | ttttaccctc | ctacaagcct | cagagtacct | gcccgggcgg | 540 |
| ccgctcgaaa | gccgaattct | gcagatatcc | atcacactgg | cggccgntcg | agcatgcac | 600 |
| taganggcc | attcgccctat | agtgagtcgt | attacaattc | actggccgcg | ttttacaacg | 660 |
| tcgtgactgg | ggaaaaccct | ggcgtacc | acttaatcgn | cttgagnac | atcccccttt | 720 |
| cgccagctgg | gcgtaatagc | gaaaaaggcc | cgnaccgatt | ggcctttcca | acagttgcgc | 780 |
| acctggaatg | ggcaaatgga | ccccctgta | acgngcatt | anccccgggg | ggg | 833 |

<210> 10

<211> 544

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 10

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gccnatctat | agtaaaaccc | agccatgacc | cctaacaggg | gccctctcag | ccctcctaata | 60 |
| gacctccggc | ctagccatgt | gatttcactt | ccactccata | acgctcctca | tactaggcct | 120 |
| actaaccaac | acactaacca | tataccaatg | atggcgcgat | gtaacacgag | aaagcacata | 180 |
| ccaaggccac | cacacaccac | ctgtccaaaa | aggccttcga | tacgggataa | tcctatttat | 240 |
| tacctcagaa | gtttttttct | tcgcaggatt | tttctgagcc | ttttaccact | ccagcctagc | 300 |
| ccctaccccc | caattaggan | gggcactggg | cccccaacag | ggcatnacc | cggttaattc | 360 |
| ccttagaagg | tccaactcct | aacacattcc | gtattactcg | catcaggagt | attnaatcac | 420 |
| ctggagctna | ccatatttaa | tngaaaan | ncggaaccca | attaattaag | cactggctaa | 480 |
| ttacaattta | ctggggncnt | nnttcccctt | ttacaangct | tnaaatacct | ggccnggntg | 540 |
| gctg | | | | | | 544 |

<210> 11

<211> 543

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 11

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| nttgccagg | ctattggttg | aatgagtagg | ctgatgggtt | cgataataac | tagtatgggg | 60 |
| ataaggggtg | taggtgtgcc | ttgtggtaag | aagtgggcta | gggcattttt | aatcttagag | 120 |
| cgaaagccta | taatcactgc | gcccgtcat | aaggggatgg | ccatggctag | gtttatagat | 180 |
| agttgggtg | ttggtgtaaa | tgagacctgc | ccgggcggcc | gctcgaaagc | cgaattctgc | 240 |
| agatatccat | cacactggcn | ggccgntcga | gcatgcatct | agagggccca | attcgcccta | 300 |
| tagtgagtcg | tatacaattc | acttggccgt | cgtttacaac | gtcgtgactg | ggaaaaccct | 360 |
| gcgttaccca | acttaatcgc | cttgagcac | ntcccccttt | cgccagctgg | cgtaataccn | 420 |
| aaaaggcccc | accgatcgcc | cttcccaana | gtngcncacc | tgattggcaa | atggaccccc | 480 |
| cttgtagcgg | ncnttaaccc | cggcggtttg | gtgggttacc | ccanngtgac | cgttacantg | 540 |
| cca | | | | | | 543 |

<210> 12

<211> 626

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis
Porcine

<400> 12
ctaatacccc tactccttac actattcctc atcacccaac taaaaatatt aaacacaaaac 60
taccacctac ctccctcacc aaagcccata aaaataaaaa attataacaa accctgagaa 120
ccaaaatgaa cgaaaatctg ttcgcttcat tcattgcccc cacaatccta ggcttaccg 180
ccgcagtacc tgcccgggcg gccgctcgaa agccgaattc tgcagatata catcacactg 240
gcggccgctc gagcatgcat ctagagggcc caattcgccc tatagttagt cgtattacaa 300
ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac cctgcgttac ccaacttaat 360
cgcttgtag cacaatcccc tttcgccagc tggcgtaata gcgaagaggc ccgaccgac 420
gcccttccca acagttgagc agcctgaatg gcnaatggac ncgccctgta ccggcgcat 480
aanccggcg gttgtggng gttacnncna ncgtgaccgg tacacttgcc agncccttac 540
gccggttcct ttgntttctt ccttcctttt tgccagttgc cggtttcccg gaaagcttta 600
aatcggggct ccttagggtc cnatta 626

<210> 13
<211> 722
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 13
atggcccacc taattacccc ctactcctta cactattcct catcacccaa ctaaaaacat 60
taaacacaaa ctaccaccta cctccctcac caaagcccat aaaaataaaa aattataaca 120
aaccctgaga accaaaatga acgaaaatct gttcgcttca ttcattgccc ccacaatcct 180
aggcctaccc gccgcagtag ctgcccgggc ggctcgctcga aagccgaatt ctgcagatat 240
ccatcacact ggccggccgct cgagcatgca tctagagggc ccaattcgcc ctatagttag 300
tcgtattaca attcactggc cgtcgtttta caacgtcgtg actgggaaaa ccctggcggt 360
acccaactta atcgcccttg agcacatccc cctttcgcca gctggcgtaa tancgaaaag 420
gccgcaccg atcgcccttc caacagttgc cagcctgaat ggcaaagga cncnccctgt 480
aacggcgcat taaaccncgg cgggtgtggg ngggttaccc ccaagcgtga ccgntacact 540
tgccagcgcc cttaacgccc gntccctttc gctttcttcc ctccctttct cgcacagttc 600
gccggnnttc cccgtaaaag tttaaatcgg gggtccctt taggggtcng attaagggtc 660
ttacggacct tgacccnnaa aaactttatt tngggtgatg ggtcacgtag ggggccctcc 720
ct 722

<210> 14
<211> 722
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 14
atggcccacc taattacccc ctactcctta cactattcct catcacccaa ctaaaaacat 60
taaacacaaa ctaccaccta cctccctcac caaagcccat aaaaataaaa aattataaca 120
aaccctgaga accaaaatga acgaaaatct gttcgcttca ttcattgccc ccacaatcct 180
aggcctaccc gccgaagtag ctgcccgggc gggccggttcn aaagccgatt ctgcagatat 240
ccatcacact ggccggccgct cgagcatgca tctagagggc ccaattcgcc ctatagttag 300
tcgtattaca attcactggc cgtcgtttta caacgtcgtg actgggaaaa ccctggcggt 360
acccaactta atcgcccttg agcacatccc cctttcgcca gctggcgtaa tancgaaaag 420
gccgcacgg atcgcccttc caacagttgc cagcctgaat ggcaaagga cncnccctgt 480
aacggcgcat taaaccncgg cgggtgtggg ngggttaccc ccaagcgtga ccgntacact 540

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tgccagcgcc | cttaacgccc | gntccttttc | gctttcttcc | cttcctttct | cgccacgttc | 600 |
| gccggntttc | cccgtaaagc | tttaaactcg | gggctccctt | taggggtcng | attaagggtc | 660 |
| ttacggacct | tgaccccnaa | aaactttatt | tnnggtgatg | ggtcacgtag | ggggccctcc | 720 |
| ct | | | | | | 722 |

<210> 15

<211> 628

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 15

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aattaccccc | atactcctta | cactattcct | catcacccaa | ctaaaaatat | taaacacaaa | 60 |
| ctaccaccta | cctccctcac | caaagcccat | aaaaataaaa | aattataaca | aaccctgaga | 120 |
| acaaaaatga | acgaaaatct | gttcgcttca | ttcattgccc | ccacaatcct | aggcctaccc | 180 |
| gccgcagtac | ctgcccgggc | ggccgctcga | aagccgaatt | ctgcagatat | ccatcacact | 240 |
| ggcggcgct | cgagcatgca | tctagagggc | ccaattcgcc | ctatagttag | tcgtattaca | 300 |
| attcactggc | cgctgcttta | caacgtcgtg | actgggaaaa | ccctggcggt | acccaactta | 360 |
| atcgccctgc | agcacatccc | cctttcgcca | gctggcgtaa | tagcgaagag | gcccgcaccg | 420 |
| atcgcccttc | aacagttgcg | cagcctgaat | ggcnaatgga | cgcgccctgt | ancggcgcat | 480 |
| taagcgcgcc | ggtgtggtgg | ttacnccag | cgtgaccgnt | acacttgcca | ggccctancg | 540 |
| ccgctccttt | cgcttcttcc | cttcctttnt | gccacgttcg | cgggttttcc | ccgtnaagct | 600 |
| ttaaatcggg | ggctcccttt | agggttcc | | | | 628 |

<210> 16

<211> 764

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 16

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cacctaatta | ccccatact | ccttacacta | ttcctcatca | cccaactaaa | aatattaaac | 60 |
| acaaactacc | acctacctcc | ctcaccaaag | cccataaaaa | taaaaaatta | taacaaaacc | 120 |
| tgagaaccaa | aatgaacgaa | aatctgttcg | cttcattcat | tgccccaca | atcctaggcc | 180 |
| taccgcgcgc | agtacctgcc | cgggcggccg | ctcgaagccg | aattccagca | cactggcgcc | 240 |
| cgttactagt | ggatccgagc | tcggtaccaa | gcttggcgta | atcatggcca | tagctgtttc | 300 |
| ctgtgtgaaa | ttgttatccg | ctcacaaatc | cacacaacat | acgagccgga | agcataaagt | 360 |
| gtaaagcctg | gggtgcctaa | tgagttagct | aatcacatt | aattgcgttg | cgctcactgc | 420 |
| cgctttcagt | cgggaaacct | gtcgtgccag | ctgcattaat | gaatcggcca | acgcccgggg | 480 |
| agaggcgggg | tgcgatttgg | ggcgctcttc | cgtnctcgt | cactgactcg | ctgcgctcgg | 540 |
| tcgttcggct | gcgcgagcgg | tatcactcac | tcaaangggc | gtaataccgg | ntatccacag | 600 |
| aatcagggga | ataacgcagg | aaagaacctt | gtgaacaaaa | aggccaccaa | aaaggccnng | 660 |
| aaccgtaaaa | aaggccnngt | tgcttggcgt | ttttccatag | gcttcgcccc | ctggacgagc | 720 |
| attacaaaaa | atcgacgctn | aaattaanag | ggggncaaac | cccc | | 764 |

<210> 17

<211> 803

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 17

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| gtccaccata | attaccccca | tactocttac | actattcctc | atcacccaac | taaaaacatt | 60 |
| aaacacaaac | taccacctac | ctccctcacc | aaagcccata | aaaataaaaa | attataacaa | 120 |
| accctgagaa | ccaaaatgaa | cgaaaatctg | ttcgcttcat | tcattgcccc | cacaatccta | 180 |
| ggcctaccgg | ccgctgtacc | tgcccgggcg | gccgctcgaa | agccgaattc | cagcacactg | 240 |
| gcggccgtta | ctagtggatc | cgagctcggg | accaagcttg | gcgtaatcat | ggcatagct | 300 |
| gtttcctgtg | tgaaattggt | atccgctcac | aattccacac | aacatacgag | ccggaagcat | 360 |
| aaagtgtaaa | gcctgggggtg | cctaattgagt | gagctaactc | acattaattg | cgttgcgctc | 420 |
| actgcccgtc | ttccagtcgg | gaaacctgtc | gtgccagctg | cattaatgaa | tcggccaacg | 480 |
| cgcggggaga | ggcggtttgc | gtattggggc | ctcttcgct | tcctcgctca | ctgactcgct | 540 |
| gcgctcggtc | gttcggctgc | ggcgagcggt | atcagctcac | tcaaaggcgg | taatacgggt | 600 |
| atccacagaa | tcaggggata | acgcaggaaa | gacatgtgag | caaaaggcca | gcaaaggcc | 660 |
| aggaaccgta | aaaangggcg | cgttgctggc | gtttttccat | angctccggc | cccctggaca | 720 |
| agcattacaa | aaaatcgacg | cttaaattca | nangtggcna | aacccgacag | gacttttaaa | 780 |
| gatcccaggc | gtttnccttg | gaa | | | | 803 |

<210> 18

<211> 722

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 18

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| taattacccc | catactcctt | acactattcc | tcatacccca | actaaaaata | ttaaacacaa | 60 |
| actaccacct | acctccctca | ccaaagccca | taaaaaataa | aaattataac | aaaccctgag | 120 |
| aacaaaaatg | aacgaaaatc | tgctcgcttc | attcattgcc | cccacaatcc | taggcctacc | 180 |
| cgccgcagta | cctgcccggg | cggccgctcg | aaagccgaat | tctgcagata | tccatcacac | 240 |
| tggcgccgcg | tcgagcatgc | atctagaggg | cccaattcgc | cctatagtga | gtcgtattac | 300 |
| aattcactgg | ccgtcgtttt | acaacgtcgt | gactgggaaa | accctggcgt | tacccaactt | 360 |
| aatcgccctg | cagcacatcc | ccctttcgcc | agctggcgta | atagcgaaga | ggcccgccacc | 420 |
| gatcgccctt | ccaacagttg | cgcagcctga | atggcggaatg | gacgcgccct | gtancggcgc | 480 |
| attaagcgcg | gcgggtgtgg | tggttacncc | cancgtgacc | cgctacactt | gccaanccgc | 540 |
| ctacgcccgc | tcctttcgct | ttcttccctc | ttctctcgca | cgttngccgg | ntttncctgt | 600 |
| naagctntaa | atcgggggct | cccttttang | gtccccattta | nngetttacg | ggacctnnan | 660 |
| cccaaaaaac | ttgattnnng | nganggnatna | cntnnnggnc | atnnncctga | tanacnggtt | 720 |
| tt | | | | | | 722 |

<210> 19

<211> 647

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 19

| | | | | | | |
|-------------|------------|------------|-------------|-------------|-------------|-----|
| ttgntngccc | cttntaagg | aagccgttca | agctcaacac | ccactaccta | aaaaatccct | 60 |
| aacatataac | tgaactcctc | acacccaatt | ggaccaatct | atcacccctat | agaagaacta | 120 |
| atgttagtat | aagtaacatg | aaaacattct | cctccgcata | agcctgcgtc | agattaaaac | 180 |
| actgaactga | caattaacag | cccaatatct | acaatcaacc | aacaagtcac | tattaccctc | 240 |
| actgtcaacc | caacacaggc | atgctcataa | ggaaagggtta | aaaaaagtaa | aagggaactcg | 300 |
| gcaaatacata | cccgcctgt | ttaccaaaaa | catcacctct | agcatcacca | gtattagagg | 360 |
| caccgcctgc | ccagtgcac | atgtttaacg | gccgcggtag | ctgcccgggc | ggccgctcga | 420 |

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| aagccgaatt | ncagcacact | ggcgcccggt | tactagtggg | tccgagctcg | ntcccaagct | 480 |
| tggcgtaatc | atgggtcatag | ctgttttccct | gtgtgaaatt | gttatccgct | cacaattcca | 540 |
| cacaaccata | cgagcccgga | aacatanaag | tgtaaagcct | ggggtggcct | aatggangtg | 600 |
| nagcttactt | ancatttatt | ngcgttgccg | ttactggccc | gcttttc | | 647 |

<210> 20

<211> 715

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 20

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| tggcagaacg | cctgacgcag | gcacatactt | cctattctac | accctagtag | gctcccttcc | 60 |
| cctactcatc | gcactaattt | acactcacaa | caccctaggg | tcactaaaca | ttctactact | 120 |
| cactctnact | gccaagaac | tatcaaaactc | ctgagctaac | aacttantat | gactagctta | 180 |
| cncantagct | tttatagtaa | anatncctnt | ttacggactc | cacttatgac | tccttaaagc | 240 |
| ccatgtcnaa | gcccccatcg | ctgggtcaat | agnacctgcc | cgggcgggcg | ntcgaaagcc | 300 |
| gaattgtgca | natatccatc | acacntggcg | gccgctngag | catgcatnta | gagggcccan | 360 |
| ttcgccctat | agagagtcgt | atnacaattc | annggccgnc | gttttacaac | gtcgagactg | 420 |
| ggaaaaccnt | ggcgttaccc | ancttaatcg | cnttgacgca | catccccntt | tcgccagctg | 480 |
| gcgtaatagc | gaagaggccc | gcaccgatcg | cccttcccaa | cagttgcgca | ncctgaatgg | 540 |
| caaatggacn | cncctgtag | cggcgcatta | ancgcggcgg | gtgtggnggt | tacncgcang | 600 |
| gtgaccgnta | cacttgccag | cgccctagcg | cccgtttttt | cgctttcttc | ccttctttct | 660 |
| cgccacgttc | ggngngtttt | cccccgnaag | ctttaaatgg | ggggctccnt | ttagg | 715 |

<210> 21

<211> 727

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 21

| | | | | | | |
|------------|-------------|-------------|------------|------------|-------------|-----|
| cagaacgcct | gacgcaggca | catacttccct | attctgcacc | ctagtaggct | cccttcccct | 60 |
| actcatcgca | ctaattttaca | ctcacaaacac | cctagggtca | ctaaacattc | tactactcac | 120 |
| tctcactgcc | caagaactnt | caaactcctg | agctaacaac | ttaatatgac | tagcttacac | 180 |
| antagctttt | atagtaaaga | tacctcttta | cggactccac | ttatgactcc | ctaaagccca | 240 |
| tgtcgaancc | cccacgntg | ggtcaatagt | acctgcccgg | gcggccggtc | naaaagccgaa | 300 |
| ttttgcaaat | ntccatcaca | ctggggggccg | ttcgancatg | cntntanagg | gccaattcn | 360 |
| ccctataggg | agtcgtttta | caatcanngg | ccggcggttn | acaacgtcgn | gactngggaa | 420 |
| aaccttgggt | taccactttt | atcggttgn | aananatccc | cnthtgncaa | nttggggtna | 480 |
| taacaaaaaa | ggccngaacc | gaattggcct | ttccaanaag | ttggccaacc | tgaatngnga | 540 |
| aangggcccc | cctgtaangg | gggcantaaa | ccccgggggg | tgtngggggg | acccccang | 600 |
| gggaccggtg | naatttggca | aggccctaaa | nncccggttc | ttttgggttt | nttccttttc | 660 |
| tttttttgcc | aannttngnc | gggttttttc | cccggaaaag | ttttaaaann | gggggggtnc | 720 |
| nttttng | | | | | | 727 |

<210> 22

<211> 578

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis
Porcine

<400> 22
 tgnagaacgc ctgacgcagg cacatacttc ctattctgca ccctagtagg ctcccttccc 60
 ctactcatcg cactaattta cactcacaac accctaggct cactaaacat tctactactc 120
 actctcactg cccaagaact atcaaacctc tgagctaaca acttaatatg actagcttac 180
 acaatagctt ttatagtaaa gatacctctt tacggactcc acttatgact ccctaaagcc 240
 catgtcgaag ccccatcgcc tgggtcaata gtacctgccc gggcgggcgc tcgaaagccg 300
 aattctgcag atatccatca cactggcggn cgctcgagca tgcactctaga gggccaatt 360
 cgccctatag tgagtcgtat tacaattcac tggccgctgt tttacaacgt cgtgactggg 420
 gaaaaccctg gggttacca acttaatcgc cttggngnga cattcccctt tngccanctt 480
 ggcgtaatag ccgaaaaagg ccgcaccgat cggccttttc caacagggtg gcgcaannnt 540
 gaatggggaa atgggacnnc ccctgnaang gggccatt 578

<210> 23
 <211> 780
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 23
 gctattgggtt gaatgagtag gctgatgggt tcgataataa ctagtatggg gataaggggt 60
 gtaggtgtgc cttgtggtaa gaagtgggct agagcatttt taatcttaga gcgaaagcct 120
 ataatcactg cgcccgtca taaggggatg gccatggcta ggtttataga tagttgggtg 180
 gttggtgtaa atgagtgagg caggagtccg aggagggttag ttgtggcaat aaaaatgatt 240
 aaggatacta gtataagaga tcaggttcgt ccttttagtgt tgtgtatggt tatcatttgt 300
 tttgaggtta gtttgattag tcattgttga cctgcccggg cggccgctcg aagccgaatt 360
 ctgcagatat ccatcacact ggccggccgt cgagcatgca tctanagggc ccaattcgcc 420
 ctatagttag tcgtattaca attcactggc cgtcgtttta caaccgtcgt gactgggaaa 480
 accctggcgt taccacaactt aatgcgcttg cagcacatcc ccctttcgnc agctggcgta 540
 atancgaaga ggccgcacc natgcncctt cccaacagtt gcgcagcctg aatggcnaat 600
 ggacncccc tgtagcggcg cattaaaccg ctgcgggtgt gnttgggttac ncgcancgtg 660
 gaccgttcac ttgccagcgc cctaacgccc ggtccttttc gctttcttcc ttcccttttt 720
 gncacnttcg ccggctttcc ccgtcaagct tttaaatncg ggggctccct ttaagggttc 780

<210> 24
 <211> 811
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 24
 catttgacat aggttttggg tgaccagtca ctttgcagac caaggtagca ttgctctgat 60
 atctgacatt tagatttctc agttcctctt taaagtgtgg tgccctgaatt gggacatcag 120
 atttgggagt gatgggttct gatatttcac tccattcact ttccccacct agattttcac 180
 atttcacacg aaactcgtat tcaagacctt caataagggt tttcactgaa aagacagttt 240
 ctgcaatttc ttctgttgtc acagaaatcc atttattctg cttcttctca cgcttctcaa 300
 ggtagtaatt tctaattctt gcacctcatc actggcaggg tgggctttca ggccacaaca 360
 caagaatctt ttggtgacag caagtaatag ttgggttgcc aagaacncct ggcttttcaa 420
 atggactctt aatggatcac cactggaggc cactttttaa aggtcactga tgcccaagg 480
 tgtctgaacc ttaaaccctg aagtaatanc cagcantttc tggngaaggc cnccaattct 540
 acanggtggc actnaaaang ctgaaaaccc cantgcattt anncccttct tgggctnaca 600

11/122

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttttttcccn | cataagttgg | nganncaaga | nccttcgnca | tttggggtgg | gttccactga | 660 |
| ncactnnngg | anntcttnat | nnaacttnga | tcaccattgg | gcccgtaagt | ttggcngggg | 720 |
| aacntggatt | tcncattna | nggtngnntt | nactgngtcc | aaaaacattg | ntgaactnng | 780 |
| cctttgnttt | ttcnnctga | gncntaaacc | g | | | 811 |

<210> 25

<211> 822

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 25

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| nccttccctg | tcgctgactg | atgcatttcg | gatttcaagg | gagtatacat | ttctggagcg | 60 |
| gcttatgctg | acatttgaag | aaatagaaat | tggcagggtt | tttttaaacc | attcgatttc | 120 |
| aggggatggc | tcgccactga | tttcacaagt | aaagagaaca | ttttgtcctt | cattaatatt | 180 |
| ttgagatcta | ggctgtgaga | tgaaggctgg | agcatctgag | aagttctttg | ctcagtgatca | 240 |
| aatcatactg | nacttgacga | ttccttcctt | ggtttgctta | tgcagggtgag | gattccctna | 300 |
| tctttggnac | tggtctggct | ngatggttag | gggtctgatc | gcttgccctga | aacaccatat | 360 |
| cggtnccctg | cgggccggcc | gttcnaaagc | cganttcag | cacantggcg | gccgttacta | 420 |
| gnggatccga | ntctggacca | nccttgncgt | antcatggca | tagntgtnc | tggttnaaat | 480 |
| ggttatccgt | tcacaattcc | acacaannta | cgaccgggaa | gccntaaagg | nnaaacctctg | 540 |
| ggngcncnta | tgagtgannt | naactcanat | taattggcgt | tgcnctcact | gcccggtttc | 600 |
| cagtggggna | aaccngtctg | cccaatnncn | ttaangaaat | gggccaacnc | ccggggaana | 660 |
| ggcggttngc | ntnttggggc | cttttccggt | nctngttcan | nnaantcttg | ncntnggnnc | 720 |
| ttngnttggg | gaaaccgggt | tnagttenct | taaagggngg | ggtantcggg | ttttcccaaa | 780 |
| ttcgggggga | tnccccngga | aaaacnttnn | gccccanggg | cc | | 822 |

<210> 26

<211> 750

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 26

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| cttttccctg | tcgctgactg | atgcatttcg | gatttcaagg | gagtatacat | ttctggagcg | 60 |
| gcttatgctg | acatttgaag | aaatagaaat | tggcagggtt | tttttaaacc | attcgatttc | 120 |
| aggggatggc | tcgccactga | tttcacaagt | aaagagaaca | ttttgtcctt | cattaatatt | 180 |
| ttgagatcta | ggctgtgaga | tgaaggctgg | agcatctgag | agttctttgc | tcagtgatcaa | 240 |
| atcatactga | cacttgacga | ttccttcctt | ggttttgctt | atgcagggtga | ggattccctc | 300 |
| atctctgtga | ctggcttgc | tgtatggttag | gggtctgatc | ctgcctgaga | caccatatcg | 360 |
| gtacctgccc | ggcgccggc | tcgaaagccg | aattccagca | cactggcggc | cgttactaag | 420 |
| tggatccgag | ctcggtacca | agcttggcgt | aatcatggtc | atagctgggt | tcctgtgtga | 480 |
| aaattgttat | ccgntacaat | tccacacanc | atacnanccg | gtaagcatnn | aagtgtaaat | 540 |
| gccctggggg | gcctnaatga | gtgagctaac | tnacattaat | tnngttncg | cttanttggc | 600 |
| cgttttncan | tcnggnaacc | tgtcttgcca | ctggattnat | naatcngnnc | aacnccng | 660 |
| ngangaggct | gnttgnttat | tgggccgcta | tttcgctttc | ttgttattga | ctngttgcgc | 720 |
| tcgggncgct | tggnttcggc | taacggnatt | | | | 750 |

<210> 27

<211> 675

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 27

```

atttgacgat aggttttggg tgaccagtca ctttgacagc caaggtagca ttgctctgat    60
atctgacatt tagatttctc agttcctctt taaagtgtgg tgcctgaatt gggacatcag    120
atttgggagt gatgggttct gatatttcac tccattcact ttccccacct agattttcac    180
atttcacacg aaactcgtat tcaagacctt caataaggnt ttctactgaa aagacagttt    240
ctcgaatttc ttctgntgnc acagaaatcc atttattctg cttcttctna cgcttctcaa    300
ggnaagtaatt tctaactctt gcaccttcac nactngcaag nggcttncan gccacaacnc    360
nagaatcttt tgngacnnncn gtaatagntg gggtgncnag aaccctggc tttttnaatg    420
gnccnttaat ggnnccacnn gaggccntn tnaaagggca annnnccca aaggggtcna    480
acntgaaccc cgaagttatt ccnncanttt ctgngaaggt cacaattnta ccgggtggcn    540
cngananngn tnaananccc cattggcctt ttaacccctt cnttggccca catttttcnc    600
cccataatn ggggatnccg nnaccccgng aatttgnggg nggggttccc ttnaacntng    660
gggattttna aatag                                     675

```

<210> 28

<211> 762

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 28

```

taaanactct cagatgctcc agccttctct acagcctaga tctcaaaata ttaatgaagg    60
acaaaatggt ctctttactt gtgaaatcag tggcgagcca tccctgaaa tcgaatgggt    120
taaaaacaac ctgccaattt ctatttcttc aaatgtcagc ataagccgct ccagaaatgt    180
atactccctt gaaatccgaa atgcatcagt cagcgacagt ggaaagtaca caattaaggc    240
caaaaatttc cgtggccagt gttcagctac agcttcttta atggctcttc ctctagttag    300
agaaccttcc agagaggtag tattgagaac aagtgggtgac acaagcttgc aaggaagctt    360
ctcgtctcag tcagtccaaa tgtctgcctc caagcaggag gcctccttca gcagtttcag    420
cagcagcagt gctagcagca tgactgagat gaaatttgca agcatgtctg cccaaagcat    480
gtcctccatg caagagtcct ttgtanaaat gagtccagc agctttatgg gaatatctaa    540
tatgacacaa ctggaaagct caactagtaa aatgcttaaa gcaggcataa gaggaattcc    600
gcctaaaatt gaactnttcc atctgatatc agcattgatg aaggcaaagt tctaacagta    660
ncctgtgctt tcacgggtga ncctacccca aaagtaacat ggcctgngg tggaaaaaaa    720
atccncagtc aaaaacnggg ggangttccc atttgaaaac ct                                     762

```

<210> 29

<211> 784

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 29

```

ccaagttgtg caaagtgaga aagatctttg tgggcacaaa aggaatccct catctggtga    60
ctcatgatgc ccgcaccatc cgctaccccg atccccctcat caaggatgaat gataaccattc    120
agattgattt agagactggc aagattactg atttcatcaa gtctgacact ggtaacctgt    180
gtatgggtgac tggaggtgct aacctaggaa gaattgggtg gatcaccaac agagagagggc    240
gccctggatc ttttgacgtg gttcacgtga aagatgcca tggcaacagc tttgccactc    300
gactttccaa catttttgtt attggcaagg gcaacaaacc atggatttct cttccccgag    360

```

13/122

| | | | | | | |
|------------|------------|------------|-------------|------------|-------------|-----|
| gaaagggat | ccgcctcacc | attgctgaag | agagagacaa | aagactggcg | gccaacacaga | 420 |
| gcagtgggtg | aaatgggtcc | ctgggtgaca | tgtcagatct | ttgtacctgc | ccgggaggnc | 480 |
| gctcgaaagc | ccgaattcca | gcacactggc | ggccgtacta | gtggatccga | gctcgggtacc | 540 |
| aagcttggtg | taatcatggc | atagctgttc | ctgtgtgaaa | ttggatccg | ttacaattcn | 600 |
| cacacatacc | aaccggaagc | ttaagtgtaa | gcctgggggtg | cctaatagag | gactacttac | 660 |
| attaattgcg | ttgcgctcac | tggccgtttt | cagtcggnaa | cctgtcgtgc | caacttnatt | 720 |
| aatgaatcgg | gcaacccccg | ggaaaagcgg | gttgctattg | ggcgcttttc | cncttccttg | 780 |
| gtta | | | | | | 784 |

<210> 30

<211> 709

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 30

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| ttgtgcaaat | gagaaagatc | tttgtgggca | caaaaggaat | ccctcatctg | gtgactcatg | 60 |
| atgcccgac | catccgctac | cccgatcccc | tcatcaaggt | gaatgatacc | attcagattg | 120 |
| atntagagac | tggcaagatt | actgatttca | tcaagttcga | cactggtaac | ctgtgtatgg | 180 |
| tgactggagg | tgctaacctc | ggaagaattg | gtgtgatcac | caacagagag | aggcgccctg | 240 |
| gatcttttga | cgtgggtcac | gtgaaagatg | ccaatggcaa | cagctttgcc | actcgacttt | 300 |
| ccaacatttt | tgttattggc | aagggcaaca | aaccatggat | ttctcttncc | cgaggaaagg | 360 |
| gtatccgcct | naccattgct | gaanagagag | acnaaagact | ggcgggcaaa | cagancantg | 420 |
| ggtgaaatgg | gtccctgggt | gacatgttaa | aactttgtac | ctgcccnggc | gggcgnttaa | 480 |
| ancccaattt | cgcacactgg | ngggccgttc | tagtggatcc | nancnnggta | ccaancttgg | 540 |
| ngtaatcatg | ggcatactgg | tttctgtgtg | gaaaatggta | tcccttacca | atttcncaca | 600 |
| acattannan | cccngaagcn | ttaaagtgtc | aaacctgggg | gngcctaata | agtnagctaa | 660 |
| ctccattaat | tgngtggggc | tcanttgccg | cttttttnatn | cgggaaact | | 709 |

<210> 31

<211> 789

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 31

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| aagttgtgca | aagtgagaaa | gatctttgtg | ggcacaaaag | gaatccctca | tctgggtgact | 60 |
| catgatgcc | gcaccatccg | ctaccccgat | cccctcatca | aggtgaatga | taccattcag | 120 |
| attgatttag | agactggcaa | gattactgat | ttcatcaagt | tcgacactgg | taacctgtgt | 180 |
| atggtgactg | gaggtgctaa | cctaggaaga | attggtgtga | tcaccaacag | agagaggcgc | 240 |
| cctggatcct | ttgacgtggt | tcacgtgaaa | gatgccaatg | gcaacagctt | tgccactcga | 300 |
| ctttccaaca | tttttgttat | tggcaagggc | aacaaaccat | ggattttctt | tccccgagga | 360 |
| aagggtatcc | gcctcaccat | tgctgaagag | agagacaaaa | gactggcgcc | caaacagagc | 420 |
| agtgggtgaa | atgggtccct | gggtgacatg | tcagatcttt | gtacctgccc | ggcggnccgc | 480 |
| tcgaaagccg | aattcagcac | actggcgccc | gttactagtg | gatccgagct | cggtaccaag | 540 |
| cttggcgtaa | tcatggcata | gctgtttcct | gtgtgaaatt | ggtatccgct | cacaattcac | 600 |
| acaacatacg | agccggaagc | ataaagtgtc | aagcctgggg | tgccctaata | gtgagctaac | 660 |
| tcacattaat | tgcgttgngc | tactgnccg | ctttncagtc | gggaaacctg | tcgtgccanc | 720 |
| tgcatataat | aatcgcccaa | cgcncgggga | naagcgggtt | gcgtattggg | cgtnttttcc | 780 |
| ctttctcnc | | | | | | 789 |

<210> 32

<211> 832

<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 32
acttgtgggc attaggtgat tgtagttata cactttcaca aaagatttta tctttgatct 60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc 120
agccaccaga gcatggctgt agggggcgatc tgaggtgccat tcatcaatgt tcttcacgat 180
gacagctttg cgtccggagt agcgtccagc caggacaagc accaccttcc caggtttcat 240
gaacttgccc atttcggcag caaccacccg acctgcccgg gcggccgctc gaaagccgaa 300
ttccagcaca ctggcggcgg ttactagtgg atccgagctc ggtaccaagc ttggcgtaat 360
catggtcata gctgttttct gtgtgaaatt gttatccgct cacaattcca cacaacatac 420
ganccggaan cataaagtgt aagcctgggg tncctantga gtgagctaac tcacaataat 480
tgcggtgcgc ttaatgcccg cttttcaaga cgggaaaccc tgcngtgcgn aacctgcatt 540
natganttcg gcaatgcncg ggggaagagg cggnttgncg tatttgggcg ctctttccgc 600
tttcttngtc antgactcnn tgcgntcgg ncngttcagn ntgcnggcna gccggtttca 660
ncttactcaa aaggcggnaa atacgggttt ttacacannnt ctggggataa cgnaangaaa 720
naacnatgtg antnnanang cntnnnaaag ggcctngaac ccgnaaaaaan ggccnnnttn 780
cttggcggtt tccataangc tttgnncnc ttgctnngca ttncaaaaaa tn 832

<210> 33
<211> 805
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 33
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ttggcgatct tcttcttgc catggcagct gtcactttgc gggggtagcg gtcaattcca 120
gccaccagag catggctgta ggggcgatct gaggtgccat catcaatgtt cttcacgatg 180
acagctttgc gtccggagta gcgtccagcc aggacaagca ccaccttccc aggtttcatg 240
aacttgccca tttcggcaca tgcccgggcg gccgctcgaa agccgaattc tgcagatac 300
catcacactg gcggccgctc gagcatgcat ctagagggcc caattcgccc tatagtgagt 360
cgtattacaa ttactggcc gtcgttttac aacgtcgtga ctgggaaaac cctggcggtta 420
cccaacttaa tcgccttgca gcacatcccc ctttcgccag ctggcgtaat agcgaagagg 480
cccgcaccga tcgccccttc caacagttgc gcagcctgaa tggcgaatgg acgcgcctg 540
tagcggcgca ttaagcgcgg cgggtgtggt gggtacgcgc aacgtgaccg ctacacttgc 600
cagcggccct tacgcccggt cctttcgctt ttcttncett tctttcttgg ccacgtttcg 660
ccgnttttc cccggtcaaa gcttttaaat cngggggctn cctttaaggg ttcccgattt 720
aatggcttta cggggacnt tgaaccccaa aaaacttgga ttaagggtga atgggttcac 780
gttantgggg ccattgcctt tgata 805

<210> 34
<211> 768
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 34

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cctgtgggca ttaggtgatt gtagttatac actttcacaa aagattttat ctttgatctc    60
ttggcgatct tcttcttgcc catggcagct gtcactttgc gggggtagcg gtcaattcca    120
gccaccagag catggctgta ggggcgatct gaggtgccat catcaatgtt cttcacgatg    180
acagctttgc gtccggagta gccgtccagc caggacaagc accaccttcc caggtttcat    240
gaacttgccc atttcggcac ctgcccgggc ggccgctcga aagccgaatt ccagcacact    300
ggcggccggt actagtggat ccgagctcgg taccaagctt ggcgtaatca tggcatagc    360
tgtttctgt gtgaaattgt tatccgctca caattccaca caacatacga gccggaagca    420
taaagtgtaa agcctggggg gcctaagtag tgagctaact cacattaatt gcgttgcgct    480
cactgcccgc tttccagtcg ggaaacctgt cgtgccagct gcattaatga atcggccaac    540
gcgcggggag aggcggtttg cgtattgggc gctcttncgc tttcttcgct cactgactcg    600
ctgcgctcgg nccgttcggc ttgcggcnaa gcggtattaa gcttaactta aaaggcgggn    660
aataccggtt atttcacag naattcaggg ggattaaccg cnnggaaaag aaccatggtg    720
aagccaaaag ggccancaa aaaaggcccn ggaaccggtt aaaaangg                768

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<210> 35

<211> 600

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 35

```

atcttntggg cattcgtgat tgtagttata cactttcaca aaagatttta tctttgatct    60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc    120
agccaccaga gcatggctgt aggggcgatc tgagggtgcc tcatcaatgt tcttcacgat    180
gacagctttg cgtccggagt agcgtccagc caggacaagc accaccttcc caggtttcat    240
gaacttgccc atttcggcac ctgcccgggc ggccgctcga aagccgaatt cagcacactg    300
gcggcccgtt actagtggat ccgagctcgg taccaagctt ggcgtaatca tggcatagc    360
tgtttctgt gtgaaattgt tatcncgctc acaattccac acaacatacg agcccgaan    420
cataaagtgt naaagcctng gggtgcccta atgagtgagc taacttcaca ttnattgcgt    480
tgcgctcact gcccgcgttt ccattcgga aaacctgtcg tgccagntgc ataaattgaa    540
ntcnggccaa ccccgggng anaaggcngt tttgonaatt nggcgctttt ccgnttcctt    600

```

<210> 36

<211> 299

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 36

```

accttgtggg cattaggtga ttgtagttat acactttcac aaaagatttt atctttgatc    60
tcttggcgat cttcttcttg cccatggcag ctgtcacttt tgccgggggta gcgggtcaaa    120
ttccagccca ccagagnatg gcttgtaagg ggcnnacntg aggtgccatc atcaaatggt    180
ncttcacnga taacagtttt gcgnccggan naccngaccn tccannacaa ncacnacntt    240
ccnagntnnn annaactggc catttnngna actngcccag nnggcntntn tnaaaccaa    299

```

<210> 37

<211> 601

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 37

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| acttgtgggc | attaggtgat | tgtagttata | cactttcaca | aaagatttta | tctttgatct | 60 |
| cttggcgatc | ttcttcttgc | ccatggcagc | tgctactttg | cgggggtagc | gggtcaattcc | 120 |
| agccaccaga | gcatggctgt | agggggcagc | tgaggtgcc | tcatcaatgt | tcttnacnat | 180 |
| gacagctttg | cgctccggagt | accgtccagc | caggacaagc | accaccttcc | caggtttcat | 240 |
| gaacttggcc | atttcggcac | ctgcccgggc | ggccgttcna | aagccgaatt | ccagcacact | 300 |
| ggcggccgtt | actagtggat | ccganctngg | tccaatctng | gcgtaatcan | ggncatanct | 360 |
| gttccctgtg | agaaattgnt | atccgctcac | anttcccaca | anatacganc | cggaagcata | 420 |
| aagtgtaaan | cctggggcgc | ctaattgagt | agctaactca | cattaattgc | gntgtgctna | 480 |
| ctgcctgttt | tncagtnngn | aancntgtcn | cngccaagct | mnatttaaaa | atcggaacn | 540 |
| cgccggnana | aggctggtn | ctttttgggc | ntntnccgct | tcctcgctna | ctgactcggt | 600 |
| g | | | | | | 601 |

<210> 38

<211> 749

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 38

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| cttgtgggca | ttaggtgatt | gtagttatac | actttcacaa | aagattttat | ctttgatctc | 60 |
| ttggcgatct | tcttcttgcc | cacggcagct | gtcactttgc | gggggtagcg | gtcaattcca | 120 |
| gccaccagag | catggctgta | ggggcgatct | gaggtgccat | catcaatgtt | cttcacgatg | 180 |
| acagctttgc | gtccggagta | cggtccagtc | aggacaagca | ccaccttccc | aggtttcatg | 240 |
| aacttgccca | tttcggcagc | aaccacccga | cctgcccggg | cgcccgctcg | aagccgaatt | 300 |
| ccagcacact | ggcggccgtt | actagtggat | ccgagctcgg | taccaagctt | ggcgtaatca | 360 |
| tggtcatagc | tgtttccctgt | gtgaaattgt | tatccgctca | caattccaca | caacatacga | 420 |
| gccggaagca | taaagtgtaa | agcctggggg | gcctaattgag | tgagctaact | cacattaatt | 480 |
| cggttgcgct | actgcccgtt | ttcagtcggg | aaacctgtcg | tgccagctgc | attaatgaat | 540 |
| ggcccaacgc | gcggggagag | gcggtttgcg | tattgggcgc | tcttccgctt | nctcgctcac | 600 |
| tgactcgctg | cgctcggtcg | ttcggtcgcg | gcnagcggta | tcagcttact | taaaggcggg | 660 |
| aataccggta | tncacagaat | cagggggataa | cgcaggaaaag | aaacatgtga | accaaaggcn | 720 |
| ancaaaaggg | caggaacccg | taaaaaggg | | | | 749 |

<210> 39

<211> 801

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 39

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| tncttgttng | nttaagtgat | ngtagttata | cactttcaca | aaaganttta | tctttganen | 60 |
| cttggcganc | ttcttcttgc | ccatngcant | tgctactttg | cgggggtagc | cggtcaattt | 120 |
| cagggcccan | ancatggntn | ttaaagggcna | nctgaggngc | cattattnat | gtgctttacg | 180 |
| atnacanttt | tncgntnnga | gaatngtcac | cccagacaaac | accncctttt | cacnggntta | 240 |
| tgaacttttc | cattttttgng | gnanccaccn | cgaaacttnt | ccggggggng | cgctttttaa | 300 |
| aacgcnattt | tnncacannn | ggtggcccg | tacctnntng | naggcccacc | tncnntnccn | 360 |
| nacattgngg | ggaataattn | ggtgatanac | aaggttntcn | ncgtggaaaa | aaannttatt | 420 |
| cccctnacna | aattntnccc | nacantctna | cccgaagann | ttnaaanggn | taatanccgg | 480 |
| nggggggctc | aattanngan | gncnnnctna | acntttaaan | ttnnnttggn | ggctcactnn | 540 |
| gccncttttt | ttnttcnggg | aaanantttt | tttnccacct | tngtttnatn | aantnnggcc | 600 |

17/122

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| nancccccg | gnaaaanaag | gtgtttncnt | nttggggggc | gcttttcgct | tcttttantt | 660 |
| aatanattn | gnttnnggt | tnggtcnggt | tnangttng | ntaannnggn | nttaanttnn | 720 |
| ntttnaaann | ggggnggata | cnagggtntt | tcnctataan | aaangngggg | gtnanncnctc | 780 |
| tnngnaaaaa | antttttttc | t | | | | 801 |

<210> 40

<211> 599

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 40

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| acttggtggc | attgggtgat | tgtagttata | cactttcaca | aaagatttta | tctttgatct | 60 |
| cttggecatc | ttcttcttgc | ccatggcagc | tgtaactttg | cgggggtagc | ggtcaattcc | 120 |
| agccaccaaa | gcatggntgt | aggggcnatc | tgaggngcca | tcataaatgt | tcttcacgat | 180 |
| gacagctttg | cgctcggagt | agcgtccagc | caggacaagc | accaccttcc | caggtttcat | 240 |
| gaacttgccc | atttcggcag | caaccacccg | acctgcccgg | gcggccgntc | gaaagccgaa | 300 |
| ttctgcagat | atccatcaca | ctggcggccg | ntcgagcatg | catctanagg | gcccatttcg | 360 |
| ccctatagtg | agtcgtatta | caattcactg | gccgtcgttt | tacaacgtcg | tgactgggaa | 420 |
| aaccctggcg | ttaccacaact | taatcgctt | gcagcanatc | cccctttccc | agntggcgta | 480 |
| atancnaaaa | ngcccgcacc | natcgcttt | nccaacagtt | gcccaccctg | aatggcaaat | 540 |
| ggacccccct | gtancggngc | attaancncc | gcggntgtgg | ggggtacccc | cannngnac | 599 |

<210> 41

<211> 579

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 41

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tcttggtggc | attgggtgat | tgtagttata | cactttcaca | aaagatttta | tctttgatct | 60 |
| cttggecatc | ttcttcttgc | ccatggcagc | tgtaactttg | cgggggtagc | ggtcaattcc | 120 |
| agccaccaga | catggcttgt | aggggcgaat | ctgaggtgcc | atcatcaatg | ttcttcacga | 180 |
| atgacagctt | ttgcgtccgg | agtancgtcc | agccagaaca | agcaccacct | tcccaggttt | 240 |
| natgaacttg | cccatttcgg | cagcaaccac | ccnactgccc | cgcccgcccg | ttcnaaagcc | 300 |
| ganttttgca | natttccttn | anantgncgg | ccgttcaacc | ntgcttttaa | agggcccatt | 360 |
| tngccntnta | gggagncgan | tnccattnaa | ttggccgtng | tttnacannt | tcgggantgg | 420 |
| aaaaccttgg | cnttccaant | tantoccttg | aagaanntcc | cntttcnaan | ttnggcgtaa | 480 |
| tacaaaaaag | gcccgaaccg | ttngcctttc | caaaagtggc | cnaccctnat | tggcaantgg | 540 |
| accccccttg | tacnggcntt | nanccccggc | gggtggtgg | | | 579 |

<210> 42

<211> 286

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 42

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| tncttgtcgg | cattaggtga | tngtagttat | acactttcac | aaaagatttt | atctttgatc | 60 |
|------------|------------|------------|------------|------------|------------|----|

18/122

| | | | | | | |
|------------|------------|------------|-------------|------------|-------------|-----|
| tcttggcgat | cttcttcttg | cccatggcag | ctgtcaacttt | gcgggggtag | cgggtcaattc | 120 |
| cagccaccag | agcatggctg | taggggcgat | ctgaggtgcc | atcatcaatg | ttcttcacga | 180 |
| tgacagcttt | gcgtccggag | tagcgtccag | ccaggacaag | caccaccttc | ccaggtttca | 240 |
| tgaacttgcc | cntttcggna | cntgcccggg | cggccgttcn | aaagcc | | 286 |

<210> 43

<211> 597

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 43

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| acttgtgggc | attaggtgat | tgtagttata | cactttcaca | aaagatttta | tctttgatct | 60 |
| cttggcgatc | ttcttcttgc | ccatggcagc | tgtaactttg | cgggggtagc | ggtcaattcc | 120 |
| agccaccaga | gcatggctgt | aggggcgatc | tgaggtgcca | tcatcaatgt | tcttcacgat | 180 |
| gacagctttg | cggtccggagt | ancgtccagc | caggacaagc | accaccttcc | caggcttcat | 240 |
| gaacttgccc | atttcggcac | ctgcccgggc | ggccgttcga | aagccgaatt | ctgcanatat | 300 |
| ccatcacact | ggcgcccggt | cgagcatgca | tctagagggc | ccaattcgcc | ctatagngag | 360 |
| tcgnattaca | attnattggc | cgctcgttta | caacgtcggn | antggnaaaa | ccttgnggtt | 420 |
| cccaactaaa | tngcnttnna | gnnaatcccc | ntttcccaat | tggcgaaatc | naaaaaggcc | 480 |
| cgcccantgg | ccnttccaaa | canttgcena | ccctaattgg | gaangggacc | ccccttgtag | 540 |
| gggcatttta | cccggnggnt | gtgggggtcc | ccccagnгаа | ccgntanttt | tgcnagc | 597 |

<210> 44

<211> 756

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 44

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| ncttgtgggc | attaggtgat | tgtagttata | cactttcaca | aaagatttta | tctttgatct | 60 |
| cttggcgatc | ttcttcttgc | ccatggcagc | tgtaactttg | cgggggtagc | ggtcaattcc | 120 |
| agccaccaga | gcatggctgt | aggggcgatc | tgaggtgcca | tcatcaatgt | tcttcacgat | 180 |
| gacagctttg | cggtccggagt | ancgtccagc | caggacaagc | accaccttcc | caggtttcat | 240 |
| gaacttgccc | atttcggcac | ctgcccgggc | ggccgttcga | aagccgaatt | ctgcagatat | 300 |
| ccatcacact | ggcgcccggt | cgagcatgca | tctagagggc | ccaattcgcc | ctatagttag | 360 |
| tcgtattaca | attcactggc | cgctcgttta | caacgtcggt | actgggaaaa | ccctggcggt | 420 |
| acccaactta | atcgcccttg | agcacatccc | cctttcgcca | gctggcgtaa | tagcgaaaag | 480 |
| gcccgcaccg | atcgcccttc | caacagttgc | gcaacctgaa | tggcgaatgg | acgcgccttg | 540 |
| tancggcgca | ttaagcgcg | cgggtgtggt | ggttacgcgc | ancgtgacct | gntacacttg | 600 |
| ccagcgcccta | cgcccgnctc | tttcgttttc | ttccttnctt | tctngncacg | ttcgccgggt | 660 |
| ttcccgtnaa | agctctaaat | cgggggctcc | tttanggggt | cgattagtgc | tttacggnac | 720 |
| cttgaccccc | aaaaacttga | tagggngatg | ggtcnn | | | 756 |

<210> 45

<211> 707

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

```

<400> 45
tcattggcat taggtgattg tagttataca ctttcacaaa agattttatc tttgatctct 60
tggcgatcct cttcttgccc atggcagctg tcactttgcg ggggtagcgg tcaattccag 120
ccaccagagc atggctgtag gggcgatctg aggtgccatc atcaatgttc ttcacgatga 180
cagctttgcy tccggagtag cgtccagcca ggacaagcac caccttccca ggtttcatga 240
acttgcccat ttcggcacct gcccgggcgg ccgctcgaaa gccgaattcc agcacactgg 300
cggccgttac tagtggatcc gagctcggtt ccaagcttgg cgtaatcatg gtcatactgt 360
tttctgtgt gaaattgtta tccgctcaca attccacaca acatacgagc cggaagcata 420
aagtgtaaag cctgggggtgc ctaatgagtg agctaactca cattaattgc gttgcgtca 480
ctgcccgtt ttcaatcggg aaacctgtcg tgcagctgca ttaatgaatc ggtcaacgca 540
cggngaaaag gcagtttgcy tattgggccc ctctttccgn ttcctcgntn actgantcgc 600
ttnacntcgg tcgttcggnt gctgctnagc nggtatnagn ttactcaaan ggcggntaat 660
accgttatcc acaanaatca ggggattacn ccanggaaaa gaacatg 707

```

<210> 46

<211> 799

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

```

<400> 46
cgacatgccg gtatctttgg ggggtggccc ctcccagtc tggataccaa gttctcccca 60
cgcagcaaca ccagacccaa aaccgcgttt tcttcaogct ctggttgctt cgcattcttt 120
ggcttgatct ttctgaactc atcacaatca cagaggatca aattcatatg cttgtcaaaa 180
gccttaaaag tgccaatgaa gattcggcca tcttgaggga tacatctcat tctatagtca 240
atgtgctgca gcattctgct actcttgcca acagtcattga ttgctgttcc accaaatcca 300
atgtccacag ttaaaacttg atgcttctga agacctaggg gaaggctata gataaaggta 360
tgacgcaggt tctoctagaa acaatgcaag ctgggcagaa ncttcaaaga gtagatggag 420
cctgggtttt gcttggaatc agattcctcg ctactccaat atggctttta ccacctcttg 480
gtgtctcagc taagaatgcc tgctcagtt cacctggaaa tncaccacag gtacctgccc 540
gggcccggcg ttcgaaaacc naatttcagc acactggcgg ccgtactant nggatcnagc 600
tngnaccaa cttggcggaa atcatggcat actgnttccg gngtgaaaa ttggtatccg 660
ttcacaattn cacanacata cgaagcccgg aagcctaaag ngtaaagcct gggggtggcc 720
taatgagtga gctaantaca ttaaatgggt tngntaatt gcccgtttcc antnggaaaa 780
cttgnttgcc agttgnttn
799

```

<210> 47

<211> 809

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

```

<400> 47
cgacatgccg tatctttggg ggggtggcccc tcccagtcac ggataccaag ttctcccccac 60
gcagcaacac cagacccaaa acccgctttt ctccacgctc tgggtgcttc gcattctttg 120
gcttgatcct tctgaactca tcacaatcac agaggatcaa attcatatgc ttgtcaaaaag 180
ccttaaagggt gccaatgaag attcggccat cttgcaggat acatctcatt ctatagtcaa 240
tgtgtgctag tatcttgcta ctcttgccaa cagtcattgat tgctgttcca ccaaatacaa 300
tgtccacagt taaaacttga tgcttctgaa gacctagggg aaggctatag ataaaggat 360
gacgcaggtt ctctagaaa caatgcaagc tgggcagaag cttcaaagag tagatggagt 420
ctgggttttg cttggaatca gattcctcgc tactccaata tggctttnac cactcttgg 480
gtctttnctt agaatgcctg cctcagttca gnttggaat ccaccaacag gtacctgccc 540

```

20/122

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| gggcngncgn | tcaaagccga | attctgcaga | tatccatcac | acttggcngc | cgctnngagc | 600 |
| atgcactctng | agggccccc | ttcncctatt | ttgaggtcgt | attacaattc | acttggccgc | 660 |
| ttttacaacg | ttgtgaatng | gaaaaccctg | cngntncccn | aaattaancg | ccnttgccat | 720 |
| nacattcccc | tttngnnanc | tngcgtmata | tcnaaaaagg | ccctgaccnn | atngcccntt | 780 |
| ncnaanagtt | tgcncncctg | gannggann | | | | 809 |

<210> 48

<211> 804

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 48

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| ntnttgaaca | cccttggnc | ctttggnggg | tggccctcc | cagtcattga | taccaagttc | 60 |
| tccccacgca | gcaacaccag | acccaaaacc | cgcttttctt | cacgctctgg | ttgcttcgca | 120 |
| ttctttggct | ngatotttct | gaactcatca | caatcacaga | ggatcaaatt | catatgcttg | 180 |
| tcaaaagcct | taaaagtgcc | aatgaagatt | cggccatctt | gcaggataca | tctcattcta | 240 |
| tagtcaatgt | gctgcagcat | cttgctactc | ttgccgacag | tcatgattgc | tgttccacca | 300 |
| aatccaatgt | ccacagttaa | aacttgatgc | ttctgaagac | ctagggaag | gctatagata | 360 |
| aagggtatgac | gcaggttctc | ctagaaacaa | tgcaagctgg | gcagaagctt | caaagagtag | 420 |
| atggagcctg | gtttttgctt | ggaatcagat | tcctcgctac | tccaatatgg | ctttaaccac | 480 |
| ctcttggtgt | ctcaactaan | aatgcctgcc | tcagttcagc | ctggaaatcc | accacaggtc | 540 |
| ctgcccgggc | nggccgctcg | aaagccgaat | tccagcacac | tggcgggcgg | tactagtggg | 600 |
| tccnaactcg | gtccaagctt | ggcgtaata | tggtcatagc | tgttcctgtg | tgaaattgta | 660 |
| tccgttacaa | ttcncacaca | tacaaccgga | agccttaaag | tgtaaanctg | gggtgcctaa | 720 |
| tgagttagct | aactcacatt | aatgcgttgg | gctnntggcc | gtttccntcg | ggaacctgtc | 780 |
| ngccactgct | taatgattgg | ccan | | | | 804 |

<210> 49

<211> 714

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 49

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| nccgacantg | ccagtatctt | tgggggggtg | cccctcccag | tcatggatac | caagttctcc | 60 |
| ccacgcagca | acaccagacc | caaaacccgc | ttttcttcac | gctctggttg | cttcgcattc | 120 |
| tttggtctnga | tctttctgaa | ctcatcacaa | tcacagagga | tcaaattcat | atgcttgcca | 180 |
| aaagccttaa | aggtgccaat | gaaaattcgg | ccatcttgca | ggatacatct | cattctatag | 240 |
| tcaatgtgct | gcagcatctt | gctactcttg | ccaacagtc | tgattgctgt | tccaccaa | 300 |
| ccaatgtcca | caagttaaaa | cttgatgctt | ctgaanacct | aggggaaggc | tatanataaa | 360 |
| ggtatgacgc | aggttctcct | anaaacaatg | caagctgggg | cagaancttc | aaaagagtan | 420 |
| atggggancct | nggtttttgc | ttggaatcaa | gattnctcgc | tactccaatn | gtggnttata | 480 |
| accaccttgt | tgggggtctc | agctaaanaa | tgctgcctc | aattcatcct | ggnaaatcca | 540 |
| cccngggnta | ccttgccnnn | gncnggccgc | ttanaaaagg | ccgaaatttc | canccnaac | 600 |
| tgggcnngcc | ggttanntag | gngggatccc | aancttggt | accaaannnt | tggngta | 660 |
| tcattggttc | ataagcttgg | ttcctgggg | nnaaaaattg | gnttnncccc | ttta | 714 |

<210> 50

<211> 663

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 50

| | | | | | | |
|------------|-------------|-------------|-------------|------------|-------------|-----|
| ccgacatgcc | gtacctttgg | gggggtggccc | ctcccagtc | tggataccaa | gttctcccca | 60 |
| cgcagcaaca | ccagacccaa | aaccgcgttt | tcttcacgct | ctgggtgctt | cgcattcttt | 120 |
| ggcttgatct | ttctgaactc | atcacaatca | cagaggatca | aattcatatg | cttgtaaaaa | 180 |
| gccttaaaag | tgccaatgaa | nattcggcca | tcttgaggga | tacatctcat | tctatagtca | 240 |
| atgtgctgca | gcattctgct | actnttgccg | acagtcacga | tngctgttcc | accaaatacca | 300 |
| angtccacag | ttaaaaactng | angcttntga | aaacctaggg | gaaggntnta | nataaaggtn | 360 |
| tnaccagggt | tctcctaaaa | ncantgcaan | ctggggcaaaa | accttcaaan | agtaaagga | 420 |
| ncngggtttt | ngcttggaat | caaattcttc | gntactccaa | tanggtttta | ccacctttgg | 480 |
| gngtcncagc | taaaaaggcc | tgccctaanta | naccctggaa | atccnccacg | ggnncttgcc | 540 |
| cgggcgccgc | ntnaaangcc | antnccanca | cngtggnggc | cgntntaggg | gaccnganc | 600 |
| nggncnaanc | ttggcgtaan | nggggtcata | nntgtccnct | ggggaaaaat | tggtatccgc | 660 |
| tca | | | | | | 663 |

<210> 51

<211> 803

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 51

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| tcatgtggca | ccaactttgc | atactactac | ttcatcagct | tctacatgct | ctgtgccttc | 60 |
| ctgggtcatca | acctctttgt | ggctgtcatc | atggacaatt | ttgactacct | caccggggac | 120 |
| tggtccatcc | tgggccctca | tcacctggat | gagttcaagg | ccatctgggc | agagtatggc | 180 |
| ccagaggcta | agggggagaat | caaacacctg | gacgtggtga | ccctgctgag | aaggattcag | 240 |
| ccccctctgg | gctttgggaa | gttctgcccc | catcgggtag | cttgtaagcg | gctggtgggc | 300 |
| atgaacatgc | ccctgaacag | cgacggcaca | gtcaccttca | atgccacact | ctttgcctcg | 360 |
| gtccgcacgg | cactcaagat | caagacggaa | ggtaactttg | agcaggccaa | cgaggagctg | 420 |
| agggccatca | tcaagaagat | ctggaagaga | accagcatga | agctcttgga | ccaggtcatc | 480 |
| cctccaatag | gagatgatga | ngtgacagtg | gggaagtctt | acgccacatt | cctcatcagg | 540 |
| agcacttncg | gaagttcatg | aaacgccaa | angagtatta | tggctatcgg | ccaagaagga | 600 |
| cattgtacct | gccggggcgg | cgctcgaaag | ccgaattcca | cacactggcg | gccgttacta | 660 |
| gtggatccga | gctcgggtacc | aacttggcgt | aatcatggnc | atactggttc | ctgtgtgaaa | 720 |
| ttgggtatccg | ctcacaattt | cacacaacat | acganccgga | agcataaagt | gtaaanccctg | 780 |
| gggtgcctaa | tgantgaact | ann | | | | 803 |

<210> 52

<211> 746

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 52

| | | | | | | |
|-------------|-------------|------------|-------------|------------|-------------|-----|
| cacatgtggc | accaactttg | catactacta | cttcatcagc | ttctacatgc | tctgtgcctt | 60 |
| cctgggtcatc | aacctctttg | tggctgtcat | catggacaat | tttgactacc | tcaqccggga | 120 |
| ctgggtccatc | ctggggccctc | atcacctgga | tgagttcaag | gccatctggg | cagagtatga | 180 |
| cccagaggct | aagggggagaa | tcaaacacct | ggacgtgggtg | accctgtgta | gaaggattca | 240 |
| gccccctctg | ggctttggga | agttctgccc | acatcgggta | gcttgtaagc | ggctgggtggg | 300 |

22/122

| | | | | | | |
|------------|------------|------------|-------------|------------|-------------|-----|
| catgaacatg | cccctgaaca | gcgacggcac | agtcaccttc | aatgccacac | tctttgccct | 360 |
| ggtccgcacg | gcactcaaga | tcaagacgga | aggttaacttt | gagcaggcca | acgaggagct | 420 |
| gagggccatc | atcaagaaga | tctggaagag | aaccagcatg | aagctcttgg | accagggtcat | 480 |
| ccctccaata | ggagatgatg | angtgacagt | ggggaagttc | tacgccacat | tcctcatnca | 540 |
| ggagcacttt | cggaagtcca | tgaacgcga | agaggagtnt | tatggctatc | ggcccaagaa | 600 |
| ggacattgna | cctgnccngg | cgggccgttn | naaacccaat | ttcagcacac | tggnggccgt | 660 |
| tctaattgat | cccanctngg | naccaanctt | ggcgtaatca | tgggcntaac | tgnttcctgn | 720 |
| ggngaaattg | ntatcccctn | acaant | | | | 746 |

<210> 53

<211> 456

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 53

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| tggaattccc | ttcggagcgg | tgctgggtcc | tttcccctgg | cacctaagaa | agcaaagaag | 60 |
| agagccgggg | gcgccaaactc | caacgtgttc | tccatgttcg | aacagaccca | aatccaggaa | 120 |
| tttaaggagg | ccttcactat | catggaccag | aacagggatg | gcttcattga | caagaacgat | 180 |
| ctgagagaca | cctttgctgc | ccttgggcga | gtgaacgtga | aaaatgaaga | aattgatgaa | 240 |
| atgatcaagg | aggctccggg | tccaattaac | tttactgtgt | tcctcacaat | gtttggggag | 300 |
| aaacttaagg | gancggaccc | tgaggaaacc | attctcaacg | cattcaaagn | gtttgaccct | 360 |
| gaaggctnag | gggtgctgaa | ggctnattac | gttntggaaa | tgctggcang | cangctngat | 420 |
| aggttttcta | ctnttttangt | tgncagatng | tcctct | | | 456 |

<210> 54

<211> 710

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 54

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|-----|
| tgggtccctt | cacntggcac | ctaagaaagc | aaagaagaga | gccgggggcg | ccaactccaa | 60 |
| cgtgttcttc | atgttcgaac | agacccaaat | ccatgaattt | aaggaggcct | tcactatcat | 120 |
| ggaccagaac | agggatggct | tcattgacaa | gaacgatctg | agaaacacct | ttgctgcctt | 180 |
| ggggccantga | acntgaaaag | tgaagaaatt | gatgaaatga | tcaaggaggc | ttccggtcaa | 240 |
| ttaactttac | tgngttcctc | acaatgtttg | gggaaaaact | taaggganccg | gaccctgagg | 300 |
| aaaccattct | caacgcattc | aaagtgtttg | accctgaagg | caaaggggtg | ctgaaggccg | 360 |
| attaccttcn | ggaaatgctg | accacgcagc | cgaaaagggt | tccaaggang | angttgacca | 420 |
| natgttcgcc | gctttccccc | ctgacgtgac | tggcaacttt | ggactaccag | aacctggtgc | 480 |
| acatnatnac | ccacggagaa | aanaangact | tggaaagggc | tcgcttggtg | cncctgggct | 540 |
| tctctttgca | aantgggtccc | tggcctcatc | tttttccccc | antaccttgc | cgggcnccgt | 600 |
| tcgaaagccc | aattttgcan | atttccttaa | acttggcggg | ccgttcnaac | cttcntttta | 660 |
| nanggcccaa | tttgcccttt | aggagtgctt | attaccaatt | nacttggccc | | 710 |

<210> 55

<211> 850

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

```

<400> 55
ntantcttct cggaggcagt gctgggtcct ttncctggc acctaagaaa gcnagaagag      60
agccgggggc gccaaactcca acgtgttctc catgttcgaa cagacccaaa tccaggaatt      120
taaggaggcc ttcactatca tggaccagaa cagggatggc ttcattgaca agaacgatct      180
gagagacacc tttgctgccc ttgggcgagt gaacgtgaaa aatgaagaaa ttgatgaaat      240
gatcaaggag gctccgggtc caattaactt tactgtgttc ctcacaatgt ttggggagaa      300
acttaaggga gcggaccctg aggaaaccat tctcaacgca ttcaaagtgt ttgaccctga      360
aggcaaaggg gtgctgaagg ctgattacgt tcgggaaatg ctgaccacgc aggcggagag      420
gttttccaag gaggaggttg accagatgtt cgccgccttc cccctgacg tgactggcaa      480
cttggactac aagaacctgg tgcncatcat caccacgga gaatanaang acttggatgg      540
ggctcgctgc tnngccctgg gctcgtnttt gcanagtgnn ccctgcctta tctctcttcc      600
ccgagtacct tgcccgggcg ggnccgctcga aagcccgaat tcnnccacant gccggcccnt      660
tctagtggga tccaacctcn gtncccaanc ttnggcntat tcnttgncat tatctngttt      720
cctgtgtgaa aattgntntn cngcttacaa atntctcacc annatnacta atccggntac      780
cttaaagntg tttaancttg ggggtgcctaa tgtagtgnac ctaacttanc attnatntgc      840
ntnngctenc

```

```

<210> 56
<211> 832
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

```

```

<400> 56
attcttctcg gagcagtgct gggtcctttc ccctggcacc taagaaagca aagaagagag      60
ccggggggcg caactccaac gtgttctcca tgttcgaaca gacccaaatc caggaattta      120
aggaggcctt cactatcatg gaccagaaca gggatggcct cattgacaag aacgatctga      180
gagacacctt tgctgccctt gggcgagtga acgtgaaaaa tgaagaaatt gatgaaatga      240
tcaaggaggc tccgggtcca attaacttta ctgtgttcct cacaatgttt ggggagaaac      300
ttaaggggagc ggaccctgag gaaaccattc tcaacgcatt caaagtgttt gaccctgaag      360
gcaaaggggg gctgaaggct gattacgttc gggaaatgct gaccacgcag gcggagaggt      420
tttccaagga ggagggtgac cagatgttcg ccgcttcccc cctgacgtga ctggcaactt      480
ggactacaag aacctggtgc acatcatcac ccacggagaa gagaangact angagggggc      540
tgcgtgctgc gccctgggct cgtctttgca nantgggtccc tgcctcatct cttntcccc      600
gagtacctcg ccggcgggcc gctcgaaacc gaatttttgc agatatccat cacacttggc      660
gggcgcgtcg agcatgcatt ntagaggggc ccaattcgnc ctatagttag tegtattaca      720
attcatggcc gtngttttac aaacgtctna cttgggaaaa cccttgcggt cccaacttta      780
tcgnccttga nccattcccc tttttccaan ttggcgtaat ancgaaaaag cn      832

```

```

<210> 57
<211> 600
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

```

```

<400> 57
ttgttcttct cgtgaggcag tgctgggtcc tttcccatg gcacctaaag aagcnaagaa      60
gagagccggg ggcgccactt ccaacgtggt ctccatgttc naccagaacc caaatccaga      120
attttaagga ggcnttnatt ttnttgcccc aaaccaggan tggtttattn gccanaacca      180
nnttggaan ccnttnntt gcctttggcc aatngacnt gaaaatngan aaattngtta      240
attngtncan ggagggtccg gttcnattna ccttcngngn tccntccat tgttngggaa      300

```

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aanccttagg | gaacngnncc | tttgggganc | cctttctaan | cnnttttnan | ngtgttaccc | 360 |
| ttttaaggcg | caaggggntg | ttctaaagnc | gcttttnctt | tnnggaaatn | ntctgcccac | 420 |
| ncggggmnta | aggggttccc | angggggagn | gtgnccccc | nattctncng | cttttncccc | 480 |
| ntnngtgna | ttgngnnttt | gngntnctat | aaancngggg | gccnntnttt | atcccccccg | 540 |
| ggaanaaaag | ncttttaggg | ggggttntnn | ttnctcccc | nngggntctt | tttttttaaa | 600 |

<210> 58

<211> 675

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 58

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| tcttcncgaa | gcagtgtctg | gtcctttccc | ctggcaccta | agaaagcaag | gaagagagcc | 60 |
| ggggggtcga | actccaacgt | gttctccatg | ttcgaacaga | cccaaatacca | ggaatttaag | 120 |
| gaggccttca | ctatcatgga | ccagaacagg | gatggcttca | ttggcaagaa | cgatctgaga | 180 |
| gacacctttg | ctgcccttgg | gcgagtgaac | gtgaaaaatg | aagaaattga | tgaaatgac | 240 |
| aaggaggctc | cgggtccaat | taactttact | gtgttcctca | caatgtttgg | ggagaaactt | 300 |
| aaggagcg | accctgagga | aaccattctc | aacgcattca | aagtgtttga | ccctgaaggc | 360 |
| aaaggggtgc | tgaangctga | ttacgttcgg | gaaatgctga | ccacgcaggc | ggagaggttt | 420 |
| tccaaggagg | aggntgacca | gatgtcgccn | ncttccccct | tgacgttact | ggcaactttg | 480 |
| gactcnagaa | cctgggtgcc | atnatcacc | acggagaata | naaggacttg | gangggggct | 540 |
| ngcttgttct | nccttgggct | cgtcttttgn | aaagngtccc | ttccttatct | tntntcccc | 600 |
| tatacctggc | ccgngcggcc | gtttaaaagn | cgnaattttt | gagattttcc | tttaaaactg | 660 |
| ccgncnctt | tacct | | | | | 675 |

<210> 59

<211> 685

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 59

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| ttcttctcga | ggcagtgtctg | ggtcctttcc | cctggcacct | aagaaagcaa | ggaagagagc | 60 |
| cggggggtgc | aactccaacg | tggtctccat | gttcgaacag | acccaaatcc | aggaatttaa | 120 |
| ggaggccttc | actatcatgg | accagaacag | ggatggcttc | attggcaaga | acgatctgag | 180 |
| agacaccttt | gctgcccttg | ggcgagtga | cgtgaaaaat | gaagaaattg | atgaaatgat | 240 |
| caaggaggct | ccgggtccaa | ttaactttac | tgtgttccct | acaatgtttg | gggagaaact | 300 |
| taagggagcg | gaccttgagg | aaaccattct | caacgcattc | aaagtgtttg | accctgaagg | 360 |
| caaaggggtg | ctgaaggctg | attacgttcg | ggaaatgctg | accacgcagg | cggagaggtt | 420 |
| ttccaaggag | gagggttgacc | agatgttcgc | cgncttcccc | ctgacgtgac | tggcaacttn | 480 |
| gactacaaga | acctgggtga | catcatcacc | cacggnnгаа | gagaangact | aggagggggc | 540 |
| tcgtgtgtgc | ccttgggtgc | gtctttgcan | aagtggccct | gcctcatctn | tctccccgnt | 600 |
| acctgcccg | gccggtcgtt | cnaaagcccn | attctgnana | tatccatcan | actggcggcc | 660 |
| gttcgagctt | catcttgagg | ccccca | | | | 685 |

<210> 60

<211> 561

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis
Porcine

<400> 60
 tgggtccttt ccctggcacc taagaaagca agaagagagc cgggggcgcc aactccaacg 60
 tggttctccat gttcgaacag acccaaattcc aggaatttaa ggaggccttc actatcatgg 120
 accagaacag ggatggcttc attgacaaga acgatctgag agacaccttt gctgcccttg 180
 ggcgagtga cgtgaaaaat gaagaaattg atgaaatgat caaggaggct cggggtccaa 240
 ttaactttac tgngttcctc acaatgtttg gggagaaact taagggagcg gaccctgagg 300
 aaaccattct caacgcattc aaagtgtttg accctgaagg caaaggggtg ctgaaggctg 360
 attacgttcg ggaaatgctg accacgcagc gganaagtgt tccaaggagg aggttgacct 420
 natgttcncc gnttttcccc ctgacgtgac tggnaacttg gactacaaga acctggtgca 480
 catnatcacc ccngagaaan anaagacttn gagggggctc ctgntgnncc tggctctntt 540
 tcanaanggg cctgcctca t 561

<210> 61

<211> 777

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 61
 tcttctcggg aggcagtgtt gggtcctttc ccctggcacc taagaaagca aagaagagag 60
 ccggggggcg caactccaac gtgttctcca tggtcgaaca gacccaaatc caggaattta 120
 aggaggcctt cactatcatg gaccagaaca gggatggctt cattgacaag aacgatctga 180
 gagacacctt tgctgccctt gggcgagtga acgtgaaaaa tgaagaaatt gatgaaatga 240
 tcaaggagcg tccgggtcca attaaacttta ctgtgttcct cacaatgttt ggggagaaac 300
 ttaaggagcg ggaccctgag gaaaccattc tcaacgcatt caaagtgttt gaccctgaag 360
 gcaaaggggt gctgaaggct gattacgttc gggaaatgct gaccacgcag gcggagaggt 420
 ttttcaagga ggagggtgac cagatgttcg ccggcttccc cctgacgtga ctggcaactt 480
 ggactacaag aacctgggtc acatcatcac ccacngagaa gaaaaggact aggangggcg 540
 tcgctgtctg gccctgggct cgtcttttga nantgggtccc tgtcctcatc tctttcccg 600
 agtccgnctc tgtccctacc ttgctgntac catgtggctg tcccatttat ccactncatc 660
 ttctttgcat ctgggtggct atnggtacct gccgggcggc cgntcganaa ntacacacac 720
 tgcggccgta ctatggatcc aacttcgggt ccaacttgnn gtaatcatgg catactn 777

<210> 62

<211> 890

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 62
 caaagataca tgaaatcaat naaagggaaa cttgaagaac agagaccaga aagagtaaaa 60
 ccttttatga caggggctgc agaacaatc aagcacatcc ttgctaattt caaaaactac 120
 cagttcttta ttggtgaaaa catgaatcca gatggcatgg ttgctctatt ggactaccgt 180
 gaggatggtg tgaccccata tatgattttc tttaggatg gtttagaaat ggaaaaatgt 240
 taacaaatgt ggcaattatt ttggatctat cacctgtcat cataactggc ttctgcttgt 300
 catccacaca acaccaggac ttaagacaaa tgggactgat gtcaccttga gctcttcatt 360
 tattttgact gtgatttatt tggagtggag gcattgtttt taagaaaaac atgtcatgta 420
 ggttgcttaa aaataaaatg catttaaact catttgagag aatgcctttt agtttaaatg 480
 atatttaaac taaattgatc ctgtagtggt cctggagaag ctagagcctg attgtaggct 540
 actactcatc aattaacttc tacagtggag actacttctg ggactggaat ataaanaaag 600

26/122

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| aatcaaaggt | tctgattttg | agttgcaata | aaggggaaaa | gacnnttgcc | tcatagcagt | 660 |
| gccaccatct | gaagtgtgga | accttaccce | tttcatnacc | tacaanggga | agtanttaac | 720 |
| tgggaagaga | ttaccaagag | aattaaaaga | anactcattc | agtgggaanca | ananaaaant | 780 |
| aaaaaanaaa | gcttgctcctg | cccggccggn | ccttngaaac | cgaatttcan | cacactggcn | 840 |
| gncgtactag | tgggatacna | nttnngtncn | aacntggngt | aatcatggcn | | 890 |

<210> 63

<211> 771

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 63

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| tatcaaagat | acatgaaatc | aatnaaaggg | aaacttgaag | aacagagacc | agaaagagta | 60 |
| agacctttta | tgacaggggc | tgacagaaca | atcaagcaca | tccttgctaa | tttcaaaaac | 120 |
| taccagttct | ttattggtga | aaacatgaat | ccagatggca | tgggtgctct | attggactac | 180 |
| cgtgaggatg | gtgtgacccc | atatatgatt | ttctttaagg | atggtttaga | aatggaaaaa | 240 |
| tgtaacaaca | tgtggcaatt | attttggatc | tatcacctgt | catcataact | ggcttctgct | 300 |
| tgatcatccac | acaacaccag | gacttaagac | aaatgggact | gatgtcatct | tgagctcttc | 360 |
| atattattttg | actgtgattt | atttggagtg | gaggcattgt | ttttaagaaa | aacatgtcat | 420 |
| gtagggtgtc | taaaaataaa | atgcatttaa | actcatttga | gagaatgcct | tttagtttaa | 480 |
| tgcatatttta | aactaaattg | atcctgtagt | gttcctggag | aagctagaac | ctgattgtag | 540 |
| gctactactc | atcaattaac | ttctacagtg | gagactactt | ctgggactgg | aatataaaaa | 600 |
| agaatcaaag | gttctgattt | tgagttgcaa | taaagggaaa | gaccatgctc | atagcagtgc | 660 |
| caacatctga | agtgtggacc | ttacccattc | atcacctcaa | ccggaagtag | ttaactggaa | 720 |
| gagattaccn | agagaattaa | angagactca | ttcagtggaa | gccaaaaaaa | a | 771 |

<210> 64

<211> 884

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 64

| | | | | | | |
|------------|-------------|------------|-------------|------------|------------|-----|
| ntaagaagga | gggcatcgag | tggacattat | tgacttttggc | atggacctgc | aggcctgcat | 60 |
| tgacctcatc | gagaagccca | tgggcatcat | gtccatccctg | gaagaggagt | gcatgttccc | 120 |
| caaggccacc | gccatgacct | tcaaggccaa | gctgtttgac | aaccacctgg | gcaaatccgc | 180 |
| caacttccag | aagccacgca | atatcaaggg | gaagcctgaa | gccoacttct | ccctgatcca | 240 |
| ctatgccggc | atcgtggact | acaacatcat | tggctggctt | gcagaagaac | aagggatcct | 300 |
| ctcaatgaga | ctgtcgtggg | cttgatcan | aagtcttccc | tcaagctgnt | cagcaccctg | 360 |
| gtttgccaac | tatgctgggg | ctgatgcgcc | tattgagaaa | gggcaaaggc | aaggccaana | 420 |
| aaaggctcgt | ccnttttaaac | tgggtcanct | tttgacang | ggaaaaatct | gaacaagctg | 480 |
| atgaccaaac | ttggngcntc | nacccttccc | caattttggg | accttgcccg | ggccggcccg | 540 |
| ttcnaaaagc | cnaattttntg | gaaantntcc | cctnacaant | ggngggccgt | ttnaaccttg | 600 |
| ccnttttnag | ggccccaatt | nnccctttta | ggngggcngt | ntnacaaatt | aattggccgt | 660 |
| gnttttaaaa | acntnngnna | ttggaaaaaa | ccttgggggt | tccaatttaa | atcnctttgg | 720 |
| aaanaaatcc | cnttttngcc | antgggggtn | attccaaana | ggccccanct | nncccttcca | 780 |
| annnngcccc | ntnaanggaa | angacccctt | ttanggnatt | aaaccngggg | tgngggtncc | 840 |
| cnanntactt | tnnttncagg | cctnangctt | tttttttttt | tnnt | | 884 |

<210> 65

<211> 716

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 65

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| gtgctgcnat | tgcagccatt | ggggaccgca | gcaagaagga | ccagagcccg | ggcaagggca | 60 |
| ccctggagga | ccagatcatc | caggccaacc | ctgctctgga | ggcctttggc | aatgccaaga | 120 |
| ccgtccggaa | cgacaactcc | tcccgtttcg | ggaaattcat | tcgaattcat | tttggggcaa | 180 |
| caggaaagtt | ggcatctgca | gacatagaga | cctatcttct | ggaaaaatcc | agagttattt | 240 |
| tccagctgaa | agcagagagg | gattatcaca | ttttctacca | aatcctgtct | aacaaaaagc | 300 |
| ctgagctgct | ggacatgctg | ctgatcacca | acaaccoccta | cgattatgca | ttcatctccc | 360 |
| aaggagagac | caccgtggcc | tccattgatg | acgctgagga | gctcatggcc | actgataacg | 420 |
| cttttgatgt | gctgggcttc | acttcagagg | agaaaaactc | catgtataag | ctgacaaggc | 480 |
| gccatcatgc | actttggaaa | catgaagtcc | aagctgaagc | agcgggaggg | agcatgcgga | 540 |
| ccagacngna | cctgaagagg | cttgacaagg | tctgcctacc | ttatgggggc | ttgaactcag | 600 |
| ccgacctgtt | canngggctg | tccacctcgn | ntgaaagtgg | gcaatgagta | ccctgcccgg | 660 |
| gcngtngttn | naaatccgnn | ttctgnntga | tatccatcaa | acttgngngt | ctgttc | 716 |

<210> 66

<211> 811

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 66

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| aagatggnat | cgagtggaca | ttattgactt | tggcatggac | ctgcaggcct | gcattgacct | 60 |
| catcgagaag | cccattggga | tcattgtccat | cctggaagag | gagtgcattg | tccccaaggc | 120 |
| caccgacatg | accttcaagg | ccaagctggt | tgacaaccac | ctgggcaaat | ccgccaactt | 180 |
| ccagaagcca | cgcaatatca | agggaagcc | tgaagccac | ttctccctga | tccactatgc | 240 |
| cggcatcgtg | gactacaaca | tcattggctg | gctgcagaag | aacaaggatc | ctctcaatga | 300 |
| gactgtcgtg | ggcttgatc | agaagtcttc | cctcaagctg | ctcagcacc | tgtttgccaa | 360 |
| ctatgtctgg | gctgatgcgc | ctattgagaa | gggcaaggc | aaggccaaga | aaggctcgct | 420 |
| ctttcagact | gtgtcagctc | tgacacggga | aaatctgaac | aagctgatga | ccaacttgcg | 480 |
| ctcacccatc | cccattttgt | acctgcccgg | cggncgctcg | aaagcccaat | tctgcagatt | 540 |
| tcatacact | ggcgcccgnt | cgancatgca | tctagagggc | ccaattcgcc | ctatagttag | 600 |
| tcgtattaca | attcactggc | cgctggttta | caacgtcgtg | actgggaaaa | ccctggcgta | 660 |
| cccaacttaa | tcgccttgca | gcacattccc | cttttgccaa | ctggcgtaat | agcgaanang | 720 |
| cccggaccga | tcgcccttcc | aacaagttgc | caacctgaat | ggcaatggnc | ccccctgta | 780 |
| acgngncatt | aacccccggc | ggtgtggtgg | n | | | 811 |

<210> 67

<211> 622

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 67

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tttnaagaac | cattncatcg | agtggacatt | cattgactnt | ggcatggacc | tgcaggcctg | 60 |
| cattgacctc | atcgagaagc | ccatgggcat | cntgtccatc | ctggaagaag | gagtgcattg | 120 |
| ttccnanggc | caccgccatg | accttcaagg | ccaagntggt | tgacaaccac | ctgggcaaat | 180 |

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```

ccgccaaactt ccaaaaancca cgcaatatca aggggaagcc tgaagccac ttctccctga 240
tccactatgc cggcatcgtg gactacaaca tcattggctg gctgcaataa gaacaaggat 300
cctctcaatg acactgtcgt gggcttgtat canaagtntt cccttaagct gctnancacc 360
ctgtttgnaa nctatgctgg ggctgatgcc cntattgana ngggcaaaagg gcaaggccaa 420
naaaggctcg ctttttcaga cttgtgtcag ctctncacca gggaaaantn tgacaaatct 480
gattgnccaa ttttgcgctn naccntcccc caanttttgg nacctngccn nggncgggcc 540
gnttcnaaaa gcccnathtt tgnaanattt ccnatcanat tggncggncg ttngaacttt 600
gccattttag aggggcccac tc 622

```

<210> 68

<211> 784

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 68

```

agatcttaag ccttgctttg gctatgaagg tgatatctta ccaactttac tgttcctcct 60
tgagggtttt caatgaacaa gatggacagc tgggagttgg cattctgctt ggcttggtcc 120
tccccaggag gagtttcnac aagggtccag tctgaatcct ttctctccag ggcccgacta 180
cccaaacctg gaggcaaggc gctnggcggg gagacttcct cttcatcttt tgctgggtga 240
gtccggcctc cttctcttta cttggntcct ccgggggtgg ggctggggct ggcacttcac 300
tttctctttt cttagtgggt tctggcatgg ccacaataag atgttattct ttaaagagtc 360
tccttccctc cagcactaag ttgacagaa accccacagg caggccaaga gacctgcccg 420
ggcngccgct cgaaagccga attccagcnc actggcggnn cgttctagtg gaatcganct 480
cggtaacaaa gctttggcgt aaatcatggn gcatagctgg ttctgtgtgn naaattgtta 540
tccggnnnnc aattnacann aactttcgaa nccggaagct taaagtgtta aagcctgggg 600
ngccnaaatg angtgagctt acttaacatt aaattngcnt ttgctctnac ttgncgctt 660
tccagtcngg aaaccttggt tagccnacct nctttnaatg aaantggcca ncgccccng 720
ganaagnang tatgagnttt ngncgcnctt tcncttcct tnccttcattg ctttttntct 780
tcng 784

```

<210> 69

<211> 752

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 69

```

atcccgatgt gcctctcaag gtttccttca gctgaagggt cttcccggtt ttgctggcca 60
gggtccatcca ttttcctttg aaccatttga tagtgggttt tctcanaaga tcttcagcct 120
tgactttggc tatgaagggt atatcttcac caactttcac tgttcctcct tgagggtttt 180
caatgaacaa gatggacagc tgggagttgg cattctgctt ggcttggtcc tccccaggag 240
gagtttcgac aagggtccag tctgaatcct ttctctccag ggcccgacta cccaaacctg 300
gaggcaaggc gctaggcggg gagacttcct cttcatcttt tgctgggtga gttccggcct 360
ccttctcttt acttggttct tccgggggtg gggctggggc tggcaacttca ttttctctt 420
tcttagtggg ttctggcatg gccacaataa gatgttatcc tttaaagagt ctcttcctc 480
ccacgactag ttgacagaaa cccacacagg aggcgaanag acctgccng gcggccggtt 540
naaagccgaa ttccacacac tgcggnctta ctagtggatc ccatgctcgg tacciaagctt 600
ggcgtaanca ttggtcntaa nctgattcct gtgtgaaatt gtntccgctt cacaatntcc 660
ncaccaacat acgaaccggg aagcattaaa ntgtaaaagc ctgggggtgcc taatgagtga 720
nctaantcac attaatccg ttgtgctnat tg 752

```

<210> 70

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<211> 676
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 70
 atnccgatgt gcctctcaag gtttccttca gctgaagggtg cttcccggtt ttgctggcca 60
 ggtccatcca ttttcctttg aaccatttga tagtggggtt tctcagaaga tcttcagcct 120
 tgactttggc tatgaagggtg atatcttcac caactttcac tgctcctcct tgagggtttt 180
 caatgaacaa gatggacagc tgggagttgg cattctgctt ggcttggttc tcccaggag 240
 gagtttcgac aaggggtccag tctgaatctt tctctccag ggcccgacta cccaaacctg 300
 gaggaaggc gctaggcggtg gagacttctt cttcatcttt tgctgggtga gttccggcct 360
 ccttctcttt acttggttct tccgggggtg gggctggggc tggcacttca ttttcctctt 420
 tcttagtggg ttctggcatg gccacaataa gatgttattc tttaaagagt ctccttcctt 480
 ccacgactag ttgacagaaa cccacaggc aggcgataga cctgccngg ccggnccgntc 540
 naagccgaa ttccagcaca ctggccggnc gttactagt gatccgaact cggtagcaag 600
 cttggcngta tcatggtcat agctgttccc tgngtgaaat ggtatccgct tacaanttcn 660
 cacaacatac nanccg 676

<210> 71
 <211> 620
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 71
 atnccgatgt gcctctcaaa gtttccttca gctgaangtg cttcccggtt ttgctggcca 60
 ggtccatcca ttttcctttg aaccatttga tagtggggtt tctcagaaga tcttcagcct 120
 tgactttggc tatgaagggtg atatcttcac caactttcac tgctcctcct tgagggtttt 180
 caatgaacaa gatggacagc tgggagttgg cattctgctt ggcttggttc tcccaggag 240
 gagtttcnac aaggggtccag tctgaatctt tctctccagg gcccgactac cccaaacctg 300
 aggaaggcn ctaggcgggg anacttcctc ttatctttg ctggggaagt ccggcctcct 360
 tctctttact tggtncttnc gggggtgggg ctggggcngg cacttnattt tctctttct 420
 aagggggttc tggcatggcc ncaataagaa gggtttnttt aaaaagtntc ctttcctttt 480
 acnaattggt gancanaaac cccacaggcg ggcaaaaacc ttncggggg cccnttaaaa 540
 acccaattnt gcaaaaantcc tnaaaatngg gggcctttaa nccttntttt aaangggccc 600
 aattccccc tatngggggc 620

<210> 72
 <211> 736
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 72
 tcccgangtn cctctcaagg tttccttcag ctgaagggtg tttccgcttt gctggccagg 60
 tccatccatt ttcctttgaa ccatttgata gtgggttttc tcanaaganc ttnanccntg 120
 actttggcta tnaaggngat atcttcacca actttcactg ggtcctcctt gaggggtttt 180
 caaatgancn agatggacac ncttngaagt tggcattttg cntggntttg gtcctcncca 240

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```

ggaangagat tgcacanagg gnnchcnctg aaacttttct ttcaagggnc caatntccca 300
aacctgggag gcaaagngct tttggcgggg anaacttccn ctttaaactt tttgctgggg 360
ggtaaattcc gggcnccttt ttctttaann tnggggcntt ccggggggggg gggctngggc 420
tggnnnttn attntcccc tttntaaan gggntcntgg gattgtngcc acaanaagga 480
tgtntttcnn taaagangtc tcctttcctc aacaactagt tgananncnc ccgcaaggcna 540
agnaanaac cctgnccggg cggtcgataa gaaagcctaa ttccaacagg actggcgncn 600
ttactnantg natcccnagc tccgnaacca nngctnggnn nnaagtcag ggcatacnn 660
ttncctnaaa aaaattgctn ttccnctcac aaattccaca cancattcng anccggaaag 720
cattaanaagn gtaaag 736

```

<210> 73

<211> 400

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 73

```

tnaccgatg tgcctctcaa ggtttccttc agctgaangt gcttcccggc tttgctggcc 60
aggatcatcc attttccttt gaaccatttt gatagtgggg tttcttaaga aagaacttta 120
ncccttgact ttngctatna aaggngaaat ttttaaccac ntttantggt ccttcctgaa 180
ggttttcaat ggaccagaan ggccacttgg aattngcant cngnttggct tggctcctcc 240
caagaaggna nttccaacag ggnncnctg gnantntttt ttttcaaggg ccnaattncc 300
aaanctggan gnnanggccn tngggnggga aaattccctt taaatttttg ncgggggaat 360
tccggncccc tttntttacn ggggtnttcc cggggngggc 400

```

<210> 74

<211> 685

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 74

```

atttgaggag aagaaaaaga ccacacttgg gggcctggtg ggaaaacaga aaatgctttt 60
tctcatttca accanatttc aaagcagcan agtgcanaa gacagtnncc aggccctncc 120
ccagtattcc tcaggattgc ttgagtgtaa gtctcgcana tncnaatnaa ctatgtttgg 180
aggatcctgc ccgggcggcc gctnnaance gaattctgca aatatccatc acactggcgg 240
ccgntcgagc atgcntntan agggcccaat tcgccctata gngagtcgta ttacaattca 300
ctggccgctc ttttacaacg ttcgtgactg ggaaaaccct ggngttccca acttaatcgc 360
cttgcancaa antccccctt nccagtggcg tnaatancca anaggcccgga accgatngcc 420
tttccaacan nttgctgcan ccttgaatgg cnaatggacn cgcctttanc ggngcattaa 480
gcncggcngt tntggtggtt acccncatcg ngaccgntnc antttgccan ngccctaang 540
ccntttcttt tngntttctt cccttctttt ttgccacgtt tgccggtttc ccgtaaaanc 600
ttttaaatnn gggggctccc tttangntc ccanttanng ntttcgggga ccttngaccc 660
caaaaacntg natnnggggg aaggg 685

```

<210> 75

<211> 764

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

31/122

Porcine

<400> 75

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| ccaactaatc | cgtggc | accagattaa | ttttacttta | tttcttcagg | cctgggggttt | 60 |
| ttcgaatgact | tcaaat | gatcttcaaa | tttgaagggtg | ggaaatgtat | tcatgtctgc | 120 |
| attaccaaac | atttgcttga | gcttaaaaag | ctocctctcc | agctcttgct | gatactctga | 180 |
| actagcatca | acaggtcctc | cagatgtctg | tcgcttagat | ttgtattctc | taatcttgct | 240 |
| cacaaagagt | ttctgtatag | gatcaagttc | cttattaaat | gccactgctg | taacaccaat | 300 |
| gttcctccgc | aaatggactg | agacggctga | ccgaatgaca | gaggagaacc | tgaagagcct | 360 |
| ctgaagaatc | atgctgattc | ttgcactcag | tcccagagctg | ccaaagcctc | cgccgtcacc | 420 |
| acctgcccgg | gcgcccgctc | gaaagccgaa | ttctgcagat | atccatcaca | ctggcggnccg | 480 |
| ctcgagcatg | catctagagg | gcccgaattcn | ccctatagtg | agtcgtatta | caattcactg | 540 |
| gccgtcggtt | tacaactgctg | tgactgggaa | aaaccctggc | gttaccacaac | ttaatccggc | 600 |
| ttggaacaac | attncctt | tcgccagctn | ggcgtaatta | ncnaaaaaag | gcccgnaccg | 660 |
| gatcgccct | ttccacann | ttggcncaag | cctggaatgg | gcnaaatggg | ccccccccc | 720 |
| ntaaccgggn | gcatttaaac | cccggcggtg | tgtgggtggt | tacc | | 764 |

<210> 76

<211> 486

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 76

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttgaaatc | caataagagg | aagtttgc | ctgatggcat | cttcaaagct | gaactgaatg | 60 |
| agtttcttac | tcgggagctg | gctgaagatg | gctactctgg | agttgaggtg | cgagtacac | 120 |
| caaccaggac | agaaatcatt | atcttagcca | ccagaacaca | gaatgttctt | ggtgagaagg | 180 |
| gccggcggt | tcgggaactg | actgctgtag | ttcagaagag | gtttggcttt | ccagagggca | 240 |
| gtgtagagct | ttatgctgaa | aaggtggcca | ctagaggtct | gtgtgccatt | gccaggcgag | 300 |
| agtctctgcg | ttacaaactc | ctaggagggc | ttgctgtgcg | gagggcctgc | tatggtgtgc | 360 |
| tgcggttcat | catggacagt | ggggccaaag | gctgcgatgt | tgtggttgtc | tgggaaactt | 420 |
| cctaggacan | aggncntant | ncatgaactt | tgtggatggc | cntgatnaan | ctcaantgag | 480 |
| accctg | | | | | | 486 |

<210> 77

<211> 822

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 77

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| nttnaaat | ccaataagag | gaagtttgc | gctgatggca | tcttcaaagc | tgaactgaat | 60 |
| gagtttctta | ctcgggagct | ggctgaagat | ggctactctg | gagttgaggt | gcgagttaca | 120 |
| ccaaccagga | cagaaatcat | tatcttagcc | accagaacac | agaatgttct | tggtgagaag | 180 |
| ggccccggcg | attcggaac | tgactgctgt | agttcagaaa | gaaggttggc | ttttccagaa | 240 |
| ggcagtgtaa | actttatgct | tgaaaaggtg | ggcccttaaa | ggtctgtggt | ncctttgccc | 300 |
| agccaaagtt | tttgcggtnc | aaacttccta | gnaggcttgc | tgtccgaagg | gcntgttttg | 360 |
| gggtncgtcg | gttnatcntg | gaaagtgggn | ccaaaggntg | caagggtgtg | ntgnttgaa | 420 |
| annntccaag | ncaaaggnt | aantccntga | atttggngga | tgccctgatn | atccncagcg | 480 |
| nnaacccttg | ttaantatta | cgttgaccct | gttgccccnc | tgttngntaa | aacagggtn | 540 |
| ctgggcttta | agggaaaaa | tcntgctgct | tggaaccan | tttggtaaaa | ttggccctaa | 600 |
| aaaccctttg | mntgaccang | tgnccttttg | gaaccccaaa | natgaaantt | tgccccccac | 660 |
| ccnnttttaa | aacaaaagg | nnggaaaccc | aaaccccttt | ntttgccnaa | nccnntccdc | 720 |

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anattttaacn gggtttcctt ggnattttntt ttngngnatt cnggatnngc tnttnaaacc 780
 cctttaaaaa anttttcccc tcccngggg nnttaaaaac ct 822

<210> 78
 <211> 618
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 78
 tcacatagaa gnagtgtggc acagggctgg aggaaagggtg ttctaccccc tcctcctcct 60
 ccacttggtta caccacgggg tggctgagaa gccccagggtg cctcatgggt ggatagaagc 120
 ccaccctgcc aggggtgaggt cttcagacac tcgcgttttt cctgcctctt ggatatctgt 180
 ttaatccag ttccagagga gggcatgcag gctggaggga agaagtgggg gagaggtggg 240
 aagggatgca cctgcccggg cggcgcctcg aaagccgaat tccagcacac tggcggccgt 300
 tactagtga tccgagctcg gtaccaagct tggcgtaatc atggtcatag ctgtttcctg 360
 tgtgaaattg ttatccgctc acaattccac acaacatacg agccggaagc ataaagtgt 420
 aagcctgggg tgcctaata gaagctaac tcacattaat tgcgttgccg tccactgccc 480
 ctttccagtc gggaaacctg tcgtgccagc tgcattaatg aatcgccaa cgcgcgggga 540
 aaagccggtt tgcgtattgg gcgctcttnc gcttctcgc tccactgactc gctgcgcttn 600
 ggtcnttccg gnttcggc 618

<210> 79
 <211> 524
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 79
 gttcacatac aagagtgtgg cacagggctg gaggaagggt gttctcacc ccttcttctc 60
 ctccacttgt tacaccacgg ggtggctgag aagccccagg tgcctcatgg gtggatagaa 120
 gccaccctcg ccagggtgag gtcttcagac actcgcgttt ttcctgcctc ttgggtatct 180
 gtttaattccc agttccagag gagggcatgc aggcctggagg gaagaantgg gggagaggtg 240
 ggaagggatg tacctgccc ggcggccgct cgaaagccga attccagcac actggcgccc 300
 gttactantg gatccnagct cggtaaccaag cttggcgtaa tcatggatcat agctgtttct 360
 gtgtgaaatt gttatccgct acaattccac acaacatacg aaccggaac ataaagcgta 420
 aacctggggg gcctaataag tgagctaact cacattaat gcgttgcgct cactgcccgc 480
 tttccantcg ggaaacctgt cntgccaact gcatttaatg aatc 524

<210> 80
 <211> 817
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 80
 tcacatagaa gtagtgtggc acagggctgg aggaaagggtg ttctaccccc tcctcctcct 60
 ccacttggtta caccacgggg tggctgagaa gccccagggtg cctcatgggt ggatagaagc 120
 ccaccctgcc aggggtgaggt cttcagacac tcgcgttttt cctgcctctt gggatatctgt 180

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| ttaatccag | ttccagagga | gggcatgcag | gctggaggga | agaagtgggg | gagaggtggg | 240 |
| aagggatgca | cctgcccggg | cggcgcgtcg | aaagccgaat | tctgcagata | tccatcacac | 300 |
| tggcgccgc | tcgagcatgc | atctagaggg | cccaattcgc | cctatagtga | gtcgtattac | 360 |
| aattcactgg | ccgtcgtttt | acaacgtcgt | gactgggaaa | accctggcgt | tacccaactt | 420 |
| aatcgccctg | cagcacatcc | ccctttcgcc | agctggcgta | atagcgaaga | ggcccgcacc | 480 |
| gatcgccctc | ccaacagttg | cgcagccctga | atggcggaatg | gacgcccctg | tancggcgca | 540 |
| ttaacgcggc | gggtgtgggtg | ggttacgcgc | acgtgaccgc | tacacttgcc | agcgccttaa | 600 |
| cgcccgtcc | tttcgctttc | ttccttcctt | tctgccacg | ttcgccggct | ttccccgca | 660 |
| agctcttaaa | tcgggggctc | cctttanggt | tncgattaat | gcttttacgg | naccttgacc | 720 |
| ccaaaaaact | tgattagggg | gatgggtcac | gtantgggac | atngccctga | tanacggttt | 780 |
| ttcgcctttt | gacgttgga | tcacgttctt | taaatan | | | 817 |

<210> 81

<211> 622

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 81

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|-----|
| acatagaagg | agtgtggcac | agggctggag | gaaaggtggt | ctaccccctc | ctcctcctcc | 60 |
| acttggttaca | ccacgggggtg | gctgagaagc | cccaggtgcc | tcatgggtgg | atagaagccc | 120 |
| accctgccag | ggtgaggtct | tcagacactc | gcgtttttcc | tgcctcttgg | gtatctgttt | 180 |
| aatcccagtt | ccagaggagg | gcatgcaggc | tggagggaag | aagtggggga | gaggtgggaa | 240 |
| gggatgcacc | tgcccggggc | gccgtcga | agccgaattc | tgcatatc | catcacactg | 300 |
| gcggccgctc | gagcatgcat | ctagagggcc | caattcgccc | tatagtgagt | cgtattacaa | 360 |
| ttcactggcc | gtcgtttttac | aacgtcgtga | ctgggaaaac | cctggcggtta | cccaacttaa | 420 |
| tcgccttgca | gcacatcccc | cttccggcag | ctggcgtaat | ancgaanagg | cccgaccgga | 480 |
| tcgcctttcca | acagttgcca | cctgaatggc | gaatggacgc | gccctgtanc | ggggcattaa | 540 |
| gcgcggcggg | tgtggtggnt | acncgcacgt | gaccgttcac | ttgcagcgcc | ctacgcccgt | 600 |
| tctttngctt | tcttcccttc | ct | | | | 622 |

<210> 82

<211> 574

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 82

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| ntcacatagc | aaggagtgtg | gcacagggtc | ggaggaaagg | tgttctaccc | cctcctcctc | 60 |
| ctccacttgt | tacaccacgg | ggtggctgag | aagcccaggg | tgcctcatgg | gtggatagaa | 120 |
| gcccaccctg | ccaggggtgag | gtcttcagac | actcgcgttt | ttcctgcctc | ttgggtatct | 180 |
| gtttaatccc | agttccagag | gagggcatgc | aggctggagg | gaagaagtgg | gggagaggtg | 240 |
| ggaagggatg | cacctgccc | ggcgccgct | cgaaagccga | attccagcac | actggcgggc | 300 |
| gttactagt | gatccgagct | cggtaaccaag | cttggcgtaa | tcatggtcat | agctgtttcc | 360 |
| tgtgtgaaat | tgttatccgc | tcacaattcc | acacaacata | cgagccggaa | gcataaagt | 420 |
| taaagcctgg | ggtgccta | gagtgcgcta | actcacatta | attgcgttgc | gctcactgcc | 480 |
| gctttcagtc | gggaaacctg | tcgtgccagc | tgcattaatg | aatcggncaa | cgcgcggggg | 540 |
| agaggcggtt | tgcgtattgg | gcgctcttcc | gctt | | | 574 |

<210> 83

<211> 495

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 83

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| accacataga | aggagtgtgg | cacagggctg | gaggaaaggt | gttctacccc | ctcctcctcc | 60 |
| tccacttggt | acaccacggg | gtggctgaga | agccccaggt | gcctcatggg | tggatagaag | 120 |
| cccaccctgc | cagggtgagg | tcttcagaca | ctcgcggttt | tcctgcctct | tgggtatctg | 180 |
| tttaatccca | gttccagagg | agggcatgca | ggctggaggg | aagaagtggg | ggagaggtgg | 240 |
| gaaggggatgc | acctgcccgg | gcggccgctc | gaaagccgaa | ttctgcagat | atccatcaca | 300 |
| ctggcggncg | ctcgacatgc | atctagaggg | cccaattccc | ctatagtggg | tcgtattaca | 360 |
| attcactggc | cgctggttta | caacgtcntg | actgggaaaa | ccctgcggta | cccaacttaa | 420 |
| atcgctttga | ncacatnccc | cttttcgcca | gcttggcgta | atagccaaan | aggcccgna | 480 |
| cgatcgccnt | tccca | | | | | 495 |

<210> 84

<211> 543

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 84

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| atcacatagc | aagnagtgtg | gcacagggct | ggaggaaagg | tgttctcacc | ccctcctcct | 60 |
| cctccacttg | ttacaccacg | gggtggctga | gaagccccag | gtgcctcatg | ggtggataga | 120 |
| agcccaccct | gccagggtag | ggtcttcaga | cactcgcggt | tttctgcctc | cttgggtatc | 180 |
| tgtttaatcc | cagttccaga | ggaggcatg | caggctggag | ggaagaagtg | ggggagaggt | 240 |
| gggaagggat | gcacctgccc | gggcggccgc | tcgaaagccg | aattctgcag | atatccatca | 300 |
| cactggcgcc | cgctcgagca | tgcattctana | gggcccatt | cgccctatag | ttgagtctgt | 360 |
| attacaattc | actggccgct | gtttttacaac | gtcgtgactg | ggaaaaccct | ggcgttacc | 420 |
| aacttaatcg | ccttgacgca | catnccccct | tcccagctgg | cgtaattanc | taataagccc | 480 |
| gnacncgatc | gcccttccca | anntttgctc | agtctgaatg | gcgaattgga | cgcgccctgt | 540 |
| agc | | | | | | 543 |

<210> 85

<211> 617

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 85

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|-----|
| acatagaagg | agtgtggcac | agggtcggag | gaaaggtggt | ctacccctc | ctcctcctcc | 60 |
| acttggttaca | ccacgggggtg | gctgagaagc | cccaggtgcc | tcattgggtg | atagaagccc | 120 |
| accctgccag | ggtgaggtct | tcagacactc | gcgtttttcc | tgcctcttgg | gtatctgttt | 180 |
| aatcccagtt | ccagaggagg | gcatgcagcc | tggagggaag | aagtggggga | gaggtgggaa | 240 |
| gggatgcacc | tgcccggggc | gccgctcgaa | agccgaattc | tgcatatata | catcacactg | 300 |
| gcggccgctc | gagcatgcat | ctagagggcc | caattcgccc | tatagtggag | cgtattacaa | 360 |
| ttcactggcc | gtcggttttac | aacgtcgtga | ctgggaaaaac | cctggcggtta | cccaacttaa | 420 |
| tcgccttgca | gcacatcccc | ctttcgccag | ctggcgtaat | ancgaanagg | cccgaccgga | 480 |
| tcgcctttcca | acagtttgcca | cctgaatggc | gaatggacgc | gccctgtanc | ggggcattaa | 540 |
| gcgcggcggg | tgtggtggnt | acncgcacgt | gaccgttcac | ttgcagcgcc | ctacgcccgt | 600 |
| tctttngctt | tcttccc | | | | | 617 |

35/122

<210> 86
 <211> 628
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 86
 ttgcgagact nagccctgca gaactggagg aggccgagaa ggccgctgat gagagcgaga 60
 gaggaatgaa ggtcatcgaa aaccggggcca tgaangatga ggagaagatg gaactgcagg 120
 agatgcagct gaaggaggcc aagcacatcg ctgaggattc agaccgcaa tatgaagagg 180
 tggccaggaa gctggtgatc ctggaaggag agctggagcg ctccgaggag agggctgagg 240
 tggccgagag taaatgtggg gacctagagg agggagctgaa aattgttacc aacaacttga 300
 gatcccagga ggcccaggcg gacaagtatt ccaccaaaga agataaatat gaagaggaga 360
 tcaaactgtt ggaggagaag ctgaaggagg ctgagaccgc agcagagttt gccgagaggt 420
 ctgtggcaaa gttggagaaa accatcgatg acctagaaga tgaagtctat gccagaaga 480
 tgaagtacct gcccgggcgg ccgctcgaaa gccgaattct tgcagattat ncatcacact 540
 ggccggccgc tcgagcatgc atcttanagg ggccccaatt cgcccttnta gtgagttcng 600
 tattacaatt nacttggccg gtcgtttt 628

<210> 87
 <211> 588
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 87
 ncgagtcnna gccctgcaga actggaggag gccgagaagg cggctgatga gagcgagaga 60
 ggaatgaagg tcatcgaaaa ccggggccatg aaggatgagg agaagatgga actgcaggag 120
 atgcagcttg aaggaggcca agcacatcgc tgaggattca gaccgcaaat atgaagaggt 180
 ggccaggaag ctggtgatcc tggaggaga gctggagcgc tcggaggaga gggctgagggt 240
 ggccgagagt aaatgtgggg acctagagga ggagctgaaa attgtttacca acaacttgaa 300
 atccctggag gcccaggcgg acaagtattc caccaaagaa gatnaatatg aagaggagat 360
 caaactgttg gaggagaagc tgaaggaggc tganaccga gcagagtttg ccgagaggtc 420
 tgtggcaaa ttggagaaaa ccatcgatga cctagaagat gaagtctatg ccgagaagat 480
 gaagtacctg ccggggcggnc gctcnaaagc cgaattccag cactctggcg gccgttctag 540
 tggatcccga gctcggtacc aagcttggcg tatcntggca tagctgtt 588

<210> 88
 <211> 685
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 88
 ttgcgagnct cagccctgca gaactggagg gaggccgaga aggcggctga tgagagcgag 60
 agaggaatga aggtcatcga aaaccgggcc atgaatgatg aggagaagat ggaactgcag 120
 gagatgcagc tgaaggaggc caagcacatc gctgaggatt cagaccgcaa atatgaagag 180
 gtggccagga agctggtgat cctggaagga gagctggagc gctcggagga gagggctgag 240

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| gtggccgaga | gtaaatgtgg | ggacctagag | gaggagctga | aaattgttac | caacaacttg | 300 |
| agatcccagg | aggcccangc | ggacaagtat | tccaccaaag | aagataaata | tgaagaggag | 360 |
| atcaaaactgt | tggaggagaa | gctgaaggag | gctgagacc | gagcagagtt | tgccgagagg | 420 |
| tctgtggcaa | agttggagaa | aacctcgtat | gacctagaag | atgaagtcta | tgcccanaag | 480 |
| atgaagtacc | tgcccgggcg | gncgctcnaa | agccgaattc | tgcagatata | catcacactg | 540 |
| gcgggcgctc | gagcatgcat | ctagagggcc | caatttcgcc | ctatagttag | tccgtattac | 600 |
| aaattcactg | gcccgtcgtt | tttacaaccn | tctgtgactg | gggaaaaccc | ttggccgnta | 660 |
| ccccaacctt | aaatcgnctt | tgcaa | | | | 685 |

<210> 89

<211> 458

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 89

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tttngcgagg | cctcagccct | gcagaagctg | gcggaggccc | gagaaggcgg | ctgatgagag | 60 |
| cgagagagga | atgaaggtca | tcgaaaaccg | ggccatgaag | gatgaggaga | agatggaact | 120 |
| gcaggagatg | cagctgaagg | aggccaagca | catcgctgag | gattcagacc | gcaaatatga | 180 |
| agaggtggcc | aggaagctgg | tgatcctgga | aggagagctg | gagcgctcgg | aggagagggc | 240 |
| tgaggtggcc | gagagtaaat | gtggggacct | agaggaggag | ctgaaaattg | ttaccaacaa | 300 |
| cttgaaatcc | ctggaggccc | aggcggacaa | gtattccacc | aaagaagata | aatatgaaga | 360 |
| ggagatcaaa | ctgttgagg | agaanctgan | ngaggctgat | acccgacaga | gcttgccgan | 420 |
| aggtctgtgg | cnaatttgga | gatnccatcg | attgacct | | | 458 |

<210> 90

<211> 740

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 90

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| nctgnccgag | tctcagccct | gcagaagctg | gcggaggccc | agaaggcggc | tgatgagagc | 60 |
| gagagaggaa | tgaaggtcat | cgaaaaccgg | gccatgaagg | atgaggagaa | gatggaactg | 120 |
| caggagatgc | agctgaagga | ggccaagcac | atcgctgagg | attcagaccg | caaatatgaa | 180 |
| gaggtggcca | ggaagctggt | gatcctggaa | ggagagctgg | agcgctcggg | ggagagggct | 240 |
| gaggtggccg | agagtaaatg | tggggaccta | gaggaggagc | tgaaaattgt | taccaacaac | 300 |
| ttgaaatccc | tggaggccca | ggcggacaag | tattccacca | aagaagataa | atatgaagag | 360 |
| gagatcaaac | tgttggagga | gaagctgaag | gaggctgaga | cccgagcaga | gcttgccgag | 420 |
| aggtctgtgg | caaagttgga | gaaaaccatc | gatgacctag | aagatgaagt | ctatgccag | 480 |
| aagatgaagt | cctgccgggc | ggccgctcga | aagccgaatt | ccacacactg | gcgngcgttc | 540 |
| tagtgatcc | gagctcggtc | caagcttggc | gtaatcatgg | tcatatgctgn | ttcctgtgtg | 600 |
| aaattggtat | ccgctcacia | ttccacacaa | catacgagcc | ggaacntaaa | gtgtaaacct | 660 |
| ggggtgccta | atgagtgcgc | taactccatt | aattgcgttg | cgctcactgg | ccgntttcca | 720 |
| tcgggaaacc | tgctgtgcca | | | | | 740 |

<210> 91

<211> 716

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

37/122

Muscular steatosis
Porcine

<400> 91
cgaagnctna gccctgcaga agctggagga ggccgagaag gcggctgatg agagcgagag 60
aggaatgaan gtcacgcgaaa accggggccat gaangatgag gagaagatgg aactgcngag 120
angcagctga aggaggccaa gcacatcgct gaggattcag accgcaaata tgaagagggtg 180
gccaggaagc tggatgcctt ggaaggagag ctggagcgct cggaggagag ggctgagggtg 240
gcccagagag aaatgtgggg acctanagga ngagctgaaa attgttacca acaacttgaa 300
atccctggag gcccangcgg acaagtattc caccaaagaa gataaatatg aagaggagat 360
caaactgttg gaggagaagc tgaaggagcg tganaccna cagagtttgc gagagggtctg 420
tggaaggtt tggagaaaac catcgatgac ctagaagatg aagtctatgc ccagnaagat 480
gaagttcctt gcccggggcn gccgttcgaa agccgaattn tgcanatntc catcacactg 540
ncnggccgnt cgagcatgca tttagagggc ccaattcgcc ctatagttag tcgtattaca 600
attcactggc cgcntttaca acngtctgtg actgggnaaa accctggcgg ttcccaactt 660
aatnnccttg ctcnattnc ccttttcgcc acttggcggt aataccnaaa aaggcc 716

<210> 92

<211> 853

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 92
ataagcagct cttcttaagg ggtgtggatc ggccataagca gttctggcgc tactttgctg 60
gtaacctggc gtccggtggg gccgctgggg ccacctccct ttgctttgtc taccgctgg 120
actttgctag gaccagggtg gctgctgatg tgggcaaggc cgccgcccag cgtgagttcc 180
atggctctgg cgactgtatc atcaagatct tcaagtctga tggcctgagg gggctctacc 240
agggtttcaa cgtctctgtc caaggcatca ttatctatag agctgcctac ttccgagttct 300
atgatactgc caaggggatg ctgcctgacc ccaagaacgt gcacattttt gtgagctgga 360
tgattgcccga gactgtgacg gcagtcgcag ggctgggtgc ctacctttt gacactgttc 420
gtcgtagaat gatgatgcag tccggccgga aaggggcccga tattatgtac ctgcccgggc 480
ggccgctcga aagccgaatt ccagcacact ggccggccgtt actagtggat ccgagctcgg 540
taccaagctt ggcgtaataca tggcatagc tgtttctgtg tgaaattggg atccgntcac 600
aattccacac aacatacnag ccggaagcat aaagtgtaaa gcctgggggt gcctaagtag 660
tgagctaact cnacattaat tgcgttgccg tcaactgnccc gntttccang tnggggaaaa 720
cctgtcgtgc caacctgcat taatgaaatc gggcaacgtc ccggggaana aggcgggttt 780
ggcgatttng ggccgctctt ccgnccttct tgnctactng acttcnttgc ncttcggtca 840
nttcgnttgn ggc 853

<210> 93

<211> 788

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 93
aagcagctct tcttaggggg cgtggatcgg cataagcagt tctggcgcta ctttgctgg 60
aacctgctgt ccggtggggc ccgctggggc cacctocctt tgctttgtct acccgctgga 120
ctttgctagg accagggttg ctgctgatgt gggcaagggc gccgcccagc gtgagttcca 180
tggctctggc gactgtatca tcaagatctt caagtctgat ggctgaggg ggctctacca 240
gggtttcaac gtctctgtcc aaggcatcat tatctataga gctgcctact tcggagtcta 300
tgatactgcc aaggggatgc tgcctgacct caagaacgtg cacatttttg tgagctggat 360

38/122

```

gattgcccag agtgtgacgg cagtgcgagg gctgggtgtcc taccoccttg acactgttcg 420
tcgtagaatg atgatgcagt ccggccggaa aggggcccag attatgtacc tgcccgggag 480
gccgctcgaa agccgaattc tgcagatata catcacactg gcggccgctc gagcatgcat 540
ctagagggcc caattcgccc tatagttagt cgtattacaa ttcactggcc gtcgttttac 600
aacgtcgtga ctgggaaaac cctggcggtta cccaacttaa tcgccttgca cacatccctt 660
ttcgccagct ggcgtaatag cnaaaagccc gnaccgatcg ccctttccaa cagtgcgca 720
acctgaatgg cgaatggacc ccccttgtag cggngcatta ancgcgcggg gtgtgggtggg 780
taccacca' 788

```

<210> 94

<211> 593

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 94

```

tttaacgccca tttgacttgc ggatgcgact gtgcgggggc ttaatctctg cctatgatgc 60
cccttcttct taaggatgcc acccagggnt ntgagcacgg tggcaccatg cttctttaag 120
tcctcagacg ccttcatctc gtcctctgac ttcagggtgtc tgaacttgct aaacttctcc 180
agagtctctg ggtgaccctt aaagagcctg tagtccagc tacttgggag gctgaggcag 240
gagaatcact tgaacccggg aggcanaagg tgcagtgaac cgagatcgct gtacctgccc 300
ggggcgccgc tcgaaagccg aattctgcag atatccatca cactggcgcc cgctcgagca 360
tgcactctaga gggcccaatt cgccctatag tgagtcgtat tacaattcac tggccgtcgt 420
tntacaacgt ctgtgactgg gaaaaccctg gcgttaccca acttaatcgg ccttcgagct 480
acatccccct ttcgccagct ggcngttaat atgcgaaana ggcccgnacc cgnbccgccc 540
tttncaaca gttgcngcag cctgaaatgg gctaattgga ccgcnccct gta 593

```

<210> 95

<211> 523

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 95

```

aaaatacttc ctgtgagggc tagagaaagg aaaagattag accctccctg gatgagagag 60
agaaagtga gaggggcagg ggagggggac agcgagccat tgagcgatct ttgtcaagca 120
tcccagaaga ctgcgccatg gggctcagcg acggggaatg gcagttggtg ctgaacgtct 180
gggggaagg gaggctgac atcccaggcc atgggcagga agtcctcatc aggctcttta 240
agggtcaccc agagactctg gagaagtttg acaagttcaa gcacctgaag tcagaggacg 300
agatgaaggc gtctgaggac ttaaagaagc atgggtgccac cgtgctcacc gccctgggtg 360
gcacccctaa naagaanggg catcatgagg catagattaa gccctgggca cagtgcgcatg 420
ccaccnanc caanatcccg tgaagtacct gcacggggcn gccgcttgaa agccgaattc 480
caacncactg gcngtcgttc tagtgatcc tagctcgttc caa 523

```

<210> 96

<211> 659

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 96
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 agagagaaaag tgaaggaggg caggggaggg ggacagcgag ccattgagcg atctttgtca 120
 agtatcccag aagactgcgc catggggctc agcgacgggg aatggcagtt ggtgctgaac 180
 gtctggggga aggtggaggg tgacatccca ggccatgggc aggaagtcct catcaggctc 240
 ttttaagggtc acccagagac tctggagaag tttgacaagt tcaagcacct gaagtcaag 300
 gacgagatga aggcgtctga ggacttaaag aagcatgggt ccaccgtgct caccgccctg 360
 ggccggcatcc ttaanaanaa ggggcntnat gaggcanaa ttaanccctc gcacagtcgn 420
 atgccaccaa gcacaagatc cccgtgttgt acctgcccgg gcggccnntn naagccnaat 480
 tctgaagata tccatcacac tggcgcccg tcnancatgc atntagaggg ccanttccc 540
 ctatagnag tcntattcaa ttcagtgccg ttnttttaca cgtnttgact gnnaaacnt 600
 gggngtttcc cnnnttaacc gnttgcaana natcccnttt ttcnccagnt ggcntaata 659

<210> 97

<211> 843

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 97
 cagtattgga atggatctgc tttggtaaag atnagcctat aattcttgtg ctgttggata 60
 tcacccccat gatgggtgtc ctggacgggtg tcctaattgga actgcaagac tgtgcccttc 120
 ccctcctgaa agatgtcatc gcaacagata aagaagacgt tgccttcaaa gacctggatg 180
 tggccattct tgtgggctcc atgccaagaa ggaagggcat ggagagaaaa gatttactga 240
 aagcaaatgt gaaaatcttc aaatcccagg gtgcagcctt agataaatac gccagaagat 300
 cagttaaggt tattgttgtg ggtaatccag ccaataccaa ctgcctgact gcttccaagt 360
 cagctccatc catccccaag gagaacttca gttgcttgac tcgtttggat cacaaccoga 420
 gctaaagctc aaattgctct taaacttggt gtgactgcta atgatgtaa gaatgtcatt 480
 atctggggaa accattcctc gactcagtat tcaagatgtc aaccatgcca aggtgaaatt 540
 gcaaaggaaa ggaaatttgg tgtttatgaa gctctgaaag atgacagctg gctcagggga 600
 gaattttgtc acgactgtgc aacancgtgg cgcttgctgg cattcaaggc ttcgaaactn 660
 ttccantgcc nttgtctgct tgcaaaancc atctgtgacc nccgttaggg acattttggt 720
 ttggaacccc cnaagggana agtttngttc ntgggtgggt atctntgatg gcaactctnt 780
 ggggtcctga tgaacnggtt tactattncc ttntggannc aaaaattana cctggnaatt 840
 tgn 843

<210> 98

<211> 767

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 98
 tncagtattg gaaaatggat ctgtctttgg taaagatcag cctataattc ttgtgctggt 60
 ggatatcacc cccatgatgg gtgtccttgg cgggtgccta atggaactgc aagactgtgc 120
 ccttcccctc ctgaaagatg tcatcgcaac agataaagaa gacgttgcc tcaaaagacct 180
 ggtagtggcc attcttgggg gctccatgcc aagaagggaa ggcattggaga gaaaaggttt 240
 actgaaagca aatgtgaaaa tcttcaaatc ccaggggtgca gccttagata aatacgccaa 300
 gaagtcagtt aaggttattg ttgtgggtaa tccagccaat accaactgcc tgactgcttc 360
 caagtcagct ccatccatcc ccaaggagaa cttcagttgc ttgactcggt tggatcacia 420
 cccgagctaa agctcaaatt gctcttaaac ttggtgtgac tgctaattgat gtaaaagatg 480
 tcattatctg gggaaacat tctcgcactt antatncaga tgtcaacat gccaaagtg 540

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aattgcaagg | aaaggaagtt | ggtgtttatg | aaactctgaa | agatgacagc | tggctcaang | 600 |
| gaaaaatttt | cacgactgtg | caacaaccgt | ggcgcttgct | gtcatcaagg | ctcgaaacta | 660 |
| ttcagtgcca | tgtntgctgc | aaaagccctt | ctgggaacac | cttanggaca | ttttggtttg | 720 |
| gaaccccnaa | aggganantt | tgggtccatt | gggtgtaatc | tctnang | | 767 |

<210> 99

<211> 615

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 99

| | | | | | | |
|------------|------------|-------------|-------------|-------------|------------|-----|
| nagtattgga | aatggatctg | tcttttgtaa | agatcagcct | ataattcttg | tgctgttgga | 60 |
| tatcaccccc | atgatgggtg | tcctggacgg | tgtoctaata | gaactgcaag | actgtgccct | 120 |
| tcccctctcg | aaagatgtca | tcgcaacaga | taaagaagac | gttgccctca | aagacctgga | 180 |
| tgtggccatt | cttgtgggct | ccatgccaaag | aaggggaaggc | atggagagaa | aagatttact | 240 |
| gaaagcaaat | gtgaaaatct | tcaaatccca | gggtgcagcc | ttagataaat | acgccaagaa | 300 |
| gtcagttaag | gttattgttg | tgggtaatcc | agccaatacc | aactgcctga | ctgcttccaa | 360 |
| gtcagctcca | tccatcccca | aggagaactt | cagttgcttg | actcgtttgg | atcacaaccg | 420 |
| agctaaagct | caaattgtct | ttaacttggt | gtgactgcta | atgatgtaaa | naatgcatta | 480 |
| tctggggaaa | ccattcctcg | actcagtatc | caaattgtcaa | ccatgccaaag | gngaaattgc | 540 |
| anggaaagga | aattgggggt | ttnaanctct | taaanatgac | actggctcan | gggaaaattt | 600 |
| gcccaantgn | gcaaa | | | | | 615 |

<210> 100

<211> 784

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 100

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| cnagctgtng | ttgctgaagg | ggtcctccct | gcgcccacgg | ccgtcgccat | ggtgaagctg | 60 |
| agcaaagagg | ccaagtagag | actacagcag | ctcttcaagg | ggagccagtt | tgccattcgc | 120 |
| tggggcttta | tccctcttgt | gatttacctg | ggatttaaga | ggggtgcaga | tcccggaaatg | 180 |
| cctgaaccaa | ctgttttgag | cctacttttg | ggataaagga | ttatttggtc | ttctggattt | 240 |
| ggaggcaatc | agcggacagc | atggaagatg | tgtgctctgg | ctcggataag | agatgggaca | 300 |
| tcattcagtc | actagttaga | tggcacaagg | ctcttcacag | acgcatctgt | agcagagtgg | 360 |
| aactttgtacc | tgcccgggcg | gccgctcgaa | agccgaattc | cagcacactg | gcggccgtta | 420 |
| ctagtggatc | cgagctcggt | accaagcttg | gcgtaatcat | ggtcatagct | gtttcctgtg | 480 |
| tgaattgtt | atccgctcac | aattccacac | aacatacgaa | cccgaagca | taaagtgtaa | 540 |
| aagcctgggg | tgccataatga | agtgaactac | tcacattaat | tgcgttgcgc | tactgcccg | 600 |
| ctttccagtc | gggaaacctg | tcgtgccaac | tgcattaatg | aatcgccaa | cgccccgggg | 660 |
| aaangcgggt | tgcgatttgg | gcgctntttc | cgttctctng | cttacttgac | tcgctgcctc | 720 |
| ggtcggtcng | nttgcggcaa | accggnttca | acttacttca | aaggcgggna | attccnggtt | 780 |
| ntcc | | | | | | 784 |

<210> 101

<211> 668

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis
Porcine

<400> 101
tacaagttcc ctctgctaca gatgcgtctg tgaagagcct tgtgccatcc aactagtgcac 60
tgaatgatgt cccatctctt atccgagcca gagcacacat cttccatgct gtccgctgat 120
ngcctccaan tccaaaaaac caattaatcc tttntcccca aagtaggntn aaancagtng 180
gttnaggctt tccggnatnn gnnccenttt taantcccag gtaantccca gaagggntaa 240
anccccacca annngcaaan nggttccent tgaaaanntg nngaagcmtt ngntgggcct 300
tttngntaag tttccentgg caacggcctg ttggccaggg aggacacttg cccggggcggc 360
cgttccaaan gccgaattcc agcacangtg gngggcgtnt taggggatcc gatctnggcn 420
ccaancttgg cgnaannang ggacatagct gtncctctgtg aaaattgnta tccntcacat 480
ttccacacaa tntacgancc ggaagcataa agtgtaaanc ctgggggcct aatgagngan 540
ctaactcana ttaattgcgn tgcgctcaat tgcccgnntt tcagtnggga aacctgtngn 600
ccnctgnatt aatgaatcng nccaccncng gngaaaggcn gttgnntatn gggcgctntt 660
ccgnttct 668

<210> 102

<211> 646

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 102
tcaagttcca ctctgctaca gatgcgtctg tgaagagcct tgtgccatcc aactagtgcac 60
tgaatgatgt cccatctctt atccgagcca gagcacacat cttccatgct gtccgctgat 120
tgctccaaa tccagaagac caaataatcc tttatcccca aagtaggctc aaaacagtng 180
gttcaggcat tccgggatct gcacccctct taaatcccag gtaaatcaca agagggataa 240
agccccagcg aatggcaaac tggctcccct tgaagagctg ctgtagtctc tgcttggcct 300
ctttgctcag cttcaccatg gcgacggcgg tgtggcgcan ggaggacacc tgcccggggcg 360
gccgntccga aagccgaatt ccagcacact ggcggcggct actagtggat ccgagctcgg 420
taccanctt ggcgtaatca tggcatagct gnttccctgt tgaaaatgnt atccggtnac 480
aattccacac aacatacnan cccggaacnt aaagtgtnaa ncctggggng cctaagtagt 540
gagctaactc acattaattg cggtggctta atggccgntt tcaancggga aaactttntt 600
gccanngnt ttatgaatng gncaaanccc cggggaaaaa gggntt 646

<210> 103

<211> 838

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 103
tgaaataact gctcatgtaa cgggtgtcct tgaatgtgtt gaagtgagga gtgtcacctg 60
gaagtctata tccagtgggc aggggtgcga ggctggtttt gtatagattc gaactctgga 120
gcttgatgac atgaagggcc cggctccagat ccacggtttt ggtagtggga gccactttgc 180
ctctgacact gtgcacatag tcatagtggg agacagcgct acttagctgt tccccacttt 240
tgacagcctg cacgtagact ggtgtatctg tgacaagctt gtagtcattc cttgttttca 300
acatgtgagc tttatacttg atatcatcac gtagatcata agcatgcttg gcatggagga 360
tttcaggagt gtcccagacg tagcaaccaa tgcctttcag ccagttgagg tcatccttgt 420
atacaatatc gctgatctga tctgtgactt tcctgacgtg atcattgact tgcaagtccg 480
gggtggcaaat ccattcgtgg aggcgcangc ggtaaatcaat ctactgact ttcttctggg 540
aatccttggc agtaaccatc ttctaccatg tcgggcacga tgtggatttt catcttgggc 600

42/122

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttttcataaa | ctgatcccg | acctgcccgg | gcgcccgntc | naaagccgaa | ttctgcaaat | 660 |
| atccatcaca | ctggcgcccg | ttcnaccatg | catctanaag | gcccattcg | ccctatagt | 720 |
| agtcntatta | caattcactg | gdcgtnggtt | tacnaacgtc | ntgactgggn | aaanccttgg | 780 |
| ggttacccaa | cttaatcccc | ttgnancaaa | ttcccccttt | tgccannttg | gngtaana | 838 |

<210> 104

<211> 821

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 104

| | | | | | | |
|-------------|------------|-------------|-------------|------------|-------------|-----|
| atttgaaata | actgctcatg | taacgggtgt | ccttgatgtg | tttgaagtga | ggagtgtcac | 60 |
| ctggaagtct | atatccagtg | ggcaggggtgc | gcaggctggg | tttgtataga | ttcgaactct | 120 |
| ggagcttgta | tgcatgaagg | gcccgggtcca | gatccacggg | tttggtagtt | ggagccactt | 180 |
| tgccctctgac | actgtgcaca | tagtcatagt | ggtagacagc | gtcacttagc | tgtttccac | 240 |
| ttttgacagc | ctgcacgtag | actgggtgtat | ctgtgacaag | cttgtagtca | ttccttggtt | 300 |
| tcaacatgtg | agctttatac | ttgatatcat | cacgtagatc | ataagcatgc | ttggcatgga | 360 |
| ggatttcagg | agtgtcccag | acgtagcaac | caatgccttt | cagccagttg | aggatcatcct | 420 |
| tgtatacaat | atcgctgac | tgatctgtga | ctttcctgac | gtgatcattg | acttgcaaag | 480 |
| tcgggggtggc | aaatccattc | gtggaggcgc | aggcggtnat | caatctcact | gactttcttc | 540 |
| tggaatcct | tggcagtaac | catctctacc | atgtcgggca | cgatgtggat | tttcatcttg | 600 |
| tctttcataa | actgatctgg | acctgcccgg | ncggncgttc | gaacatgcat | ctanaagggc | 660 |
| ccaattcngc | ctatagtga | gtctattaca | attcactggc | cgtcgtttta | caacntcgtn | 720 |
| actgggaaaa | ccctgccgtt | cccaacttan | tcgccttgca | ntnacattcc | cctttcgcca | 780 |
| gttggcgat | tagccnaaaa | ggcccngcac | cgatcgccctt | c | | 821 |

<210> 105

<211> 816

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 105

| | | | | | | |
|-------------|------------|-------------|------------|------------|-------------|-----|
| atttgaaata | actgctcatg | taacgggtgt | ccttgatgtg | tttgaagtga | ggagtgtcac | 60 |
| ctggaagtct | atatccagtg | ggcaggggtgc | gcaggctggg | tttgtataga | ttcgaactct | 120 |
| ggagcttgta | tgcatgaagg | gcccgggtccg | gatccacggg | tttggtagtt | ggagccactt | 180 |
| tgccctctgac | actgtgcaca | tagtcatagt | ggtagacagc | gtcacttagc | tgtttccac | 240 |
| ttttgacagc | ctgcacgtag | actgggtgtat | ctgtgacaag | cttgtagtca | ttccttggtt | 300 |
| tcaacatgtg | agctttatac | ttgatatcat | cacgtagatc | ataagcatgc | ttggcatgga | 360 |
| ggatttcagg | agtgtcccag | acgtagcaac | caatgccttt | cagccagttg | aggatcatcct | 420 |
| tgtatacaat | atcgctgac | tgatctgtga | ctttcctgac | gtgatcattg | acttgcaagt | 480 |
| cggggtggca | aatccattcg | tgagagcgag | ccggtaatca | aatctcactg | acttcttctg | 540 |
| ggaatccttg | gcagtaacca | tctttaccat | gtcggcacga | tgtggatttt | catcttggtc | 600 |
| ttttcataaa | ctgatctgta | cctgccccgg | gcgggccgct | cgaaaccgaa | ttccagcaca | 660 |
| ctggcgggcc | gttactagt | gatccgagct | nngtaccaan | cttggcgtaa | tcatgggnat | 720 |
| actggttcct | gngtnaaatt | gttatccgtt | acaattccca | caatcatact | aaccggaagc | 780 |
| ttaaantgta | aagcctgggg | tgccctaattg | agnnac | | | 816 |

<210> 106

<211> 802

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 106

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| ggtgtccttg | atgtgtttga | agtgaggagt | gtcacctgga | agtctatata | cagtgggcag | 60 |
| ggtgcgagg | ctgggtttgt | atagattcga | actctggagc | ttgtatgcat | gaaggggccg | 120 |
| gtccagatcc | acgggttttg | tagttggagc | cactttgcct | ctgacactgt | gcacatagtc | 180 |
| atagtggtag | acagcgtcac | ttagctgttt | cccacttttg | acagcctgca | cgtagactgg | 240 |
| tgtatctgtg | acaagcttgt | agtcattcct | tgttttcaac | atgtgagctt | tatacttgat | 300 |
| atcatcacgt | agatcataag | catgcttggc | atggaggatt | tcaggagtgt | cccagacgta | 360 |
| gcaaccaatg | cctttcagcc | agttgaggtc | atccttggat | acaatatcgc | tgatctgata | 420 |
| tgtgactttc | ctgacgtgat | cattgacttg | caagtcgggg | tggaataacc | attcgtggag | 480 |
| gcgccangcg | taatcaatct | cactgacttt | cttctgggaa | tccttggcag | taaccatctt | 540 |
| ctaccatgtc | gggcacgatg | tggattttca | tcttgggtct | ttcataaaact | gatcccgtac | 600 |
| ctgcccgggc | ggccgntcna | aagccgaatt | ctgcaaatat | ccatcacact | ggcggccggt | 660 |
| cnaccatgca | tctanaaggc | ccaattcgcc | ctatagtggg | tcntattaca | attcactggc | 720 |
| cgtnggttta | cnaacgtcnt | gactgggnaa | anccttgggg | ttaccaact | taatcccctt | 780 |
| gnancaaatt | cccccttttg | cc | | | | 802 |

<210> 107

<211> 726

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 107

| | | | | | | |
|-------------|------------|------------|-------------|------------|-------------|-----|
| tgatgtgttt | gaagtgagga | gtgtcacctg | gaagtctata | tccagtgggc | aggggtgcga | 60 |
| ggctggtttt | gtatagattc | gaactctgga | gcttgatatg | atgaaggggc | cgggtccagat | 120 |
| ccacggtttt | ggtagttgga | gccactttgc | ctctgacact | gtgcacatag | tcatagtggg | 180 |
| agacagcgtc | acttagctgt | ttcccacttt | tgacagcctg | cacgtagact | ggtgtatctg | 240 |
| tgacaagctt | gtagtcattc | cttggtttca | acatgtgagc | tttatacttg | atatcatcac | 300 |
| gtagatcata | agcatgcttg | gcatggagga | tttcaggagt | gtcccagacg | tagcaaccaa | 360 |
| tgcctttcag | ccagttgagg | tcatccttgg | atacaatatc | gctgatctga | tctgtgactt | 420 |
| tcttgacgtg | atcattgact | tgcaaaagtc | gggtggcaaa | tccattcgtg | gaggcgagg | 480 |
| cggtnatcaa | tctcactgac | tttcttctgg | gaatccttgg | cagtaaccat | ctctaccatg | 540 |
| tcggggcacga | tgtggatttt | catcttgtct | ttcataaaact | gatctggacc | tgcccggncg | 600 |
| gncgttcgaa | catgcatcta | naagggccca | attcngccta | tagtgaagtc | tattacaatt | 660 |
| cactggccgt | cgtttttaca | cntcgtnact | gggaaaaccc | tgccgttccc | aacttantcg | 720 |
| ccttgc | | | | | | 726 |

<210> 108

<211> 810

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 108

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttgaaataac | tgctcatgta | acgggtgtcc | ttgatgtgtt | tgaagtgagg | agtgtcacct | 60 |
| ggaagtctat | atccagtggg | caggggtgcg | aggctggttt | tgtatagatt | cgaactctgg | 120 |
| agcttgatat | catgaagggc | ccggtccgga | tccacggttt | tggtagtggg | agccactttg | 180 |

| | | | | | | |
|------------|-------------|-------------|------------|------------|-------------|-----|
| cctctgacac | tgtgcacata | gtcatgggtg | tagacagcgt | cacttagctg | tttcccactt | 240 |
| ttgacagcct | gcacgtagac | tgggtgatct | gtgacaagct | tgtagtcat | ccttggtttc | 300 |
| aacatgtgag | ctttatactt | gatatcatca | cgtagatcat | aagcatgctt | ggcatggagg | 360 |
| atttcaggag | tgtcccagac | gtagcaacca | atgcctttca | gccagttgag | gtcatccttg | 420 |
| tatacaatat | cgctgatctg | atctgtgact | ttcctgacgt | gatcattgac | ttgcaagtgc | 480 |
| gggtggcaaa | tccattcgtg | gagcgcagcc | ggtaatcaaa | tctcactgac | ttcttctggg | 540 |
| aatccttggc | agtaaccatc | tttaccatgt | cggcacgatg | tggattttca | tcttgggtctt | 600 |
| ttcataaact | gatctgtacc | tgccccgggc | gggcccgtcg | aaaccgaatt | ccagcacact | 660 |
| ggcggggccg | tactagtggg | tccgagctnn | gtaccaanct | tggcgtaatc | atgggnatac | 720 |
| tggttcctgn | gtnaaattgt | tatccggttac | aattcccaca | atcatactaa | ccggaagcct | 780 |
| aaantgtaaa | gcctgggggtg | cctaattgag | | | | 810 |

<210> 109

<211> 695

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 109

| | | | | | | |
|-------------|------------|-------------|-------------|------------|------------|-----|
| tggaagtcta | tatccagtgg | gcaggggtgcg | caggctgggtt | ttgtatagat | tcgaactctg | 60 |
| gagcttgtat | gcatgaagg | cccgggtccag | atccacgggtt | ttggtagttg | gagccacttt | 120 |
| gcctctgaca | ctgtgcacat | agtcatagtg | gtagacagcg | tcacttagct | gtttcccact | 180 |
| tttgacagcc | tgacgtaga | ctggtgtatc | tgtgacaagc | ttgtagtcat | tccttgtttt | 240 |
| caacatgtga | gctttatact | tgatatcatc | acgtagatca | taagcatgct | tggcatggag | 300 |
| gatttcagga | gtgtcccaga | cgtagcaacc | aatgcctttc | agccagttga | ggtcatcctt | 360 |
| gtatacaata | tcgctgatct | gatctgtgac | tttcctgacg | tgatcattga | cttgcaagtc | 420 |
| gggggtggcaa | atccattcgt | ggaggcgcan | gcggtaatca | atctcactga | ctttcttctg | 480 |
| ggaatccttg | gcagtaacca | tcttctacca | tgtcgggcac | gatgtggatt | ttcatcttgg | 540 |
| tcttttcata | aactgatccc | gtacctgccc | gggcccgcgn | tcnaaagccg | aattctgcaa | 600 |
| atatccatca | cactggcggc | cgttcnacca | tgcattctana | aggcccaatt | cgccctatag | 660 |
| tgagtentat | tacaattcac | tggccgtnng | tttac | | | 695 |

<210> 110

<211> 714

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 110

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gatgtgtttg | aagtgaggag | tgtcacctgg | aagtctatat | ccagtgggca | gggtgcgcag | 60 |
| gctgggtttt | tatagattcg | aactctggag | cttgtatgca | tgaagggccc | ggtccagatc | 120 |
| cacgggtttt | gtagttggag | ccactttgce | tctgacactg | tgacatagat | catagtggta | 180 |
| gacagcgtca | cttagctgtt | tcccactttt | gacagcctgc | acgtagactg | gtgtatctgt | 240 |
| gacaagcttg | tgtcattccc | ttgttttcaa | catgtgagct | ttatacttga | tatcatcacg | 300 |
| tagatcataa | gcattgcttg | catggaggat | ttcaggagtg | tcccagacgt | agcaaccaat | 360 |
| gcctttcagc | cagttgagg | catccttgta | tacaatatcg | ctgatctgat | ctgtgacttt | 420 |
| cctgacgtga | tcatcgactt | gcaagtcggg | gtggcaaatc | cattcgtgga | ggcgccangcg | 480 |
| gtaatcaatc | tactgactt | tcttctggga | atccttggca | gtaaccatct | tctaccatgt | 540 |
| cgggcacgat | gtggattttc | atccttggct | tttcataaac | tgatcccgtg | cctgcccggg | 600 |
| cggccgntcn | aaagccgaat | tctgcaataa | tccatcacac | tggcgccggt | tcnaccatgc | 660 |
| atctanaagg | ccaattcgc | cctatagtga | gtcntattac | aattcactgg | ccgt | 714 |

<210> 111

<211> 197
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 111
 taccataaat acattgacac agaaaaacca taggcagctt gagaacttag gtaacagtgg 60
 aaaagtctaa acccaaacct ttgacttgca ggaagctcct gcagacaagt gtgatgcttt 120
 gaaatgccta aatagcttca acgtagttgg gaattgggtn ggaacctttc cggcctgtgc 180
 canctctgtg cacagcg 197

<210> 112
 <211> 413
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 112
 ccatacttac attgacacag aaaaaccata ggcagcttga gaacttaggt aacagtggag 60
 agtctaaacc gaaacattga ctgcaggatc tgtaagtcct gcagacaagt gtgatgcttt 120
 gaaatgccta aatagcttca acgtagttgg ctgggagcat tccggtcctg ccagtcctct 180
 gcaccagtgc catacattca gcccttcac aaattgnctt gaaacattta atgaatgggc 240
 attctccatn ctttgaaang gncaccttan tctggcanna accaanncnt natagtcntt 300
 ccatggnncc ggnaaaattt ttccggncag tagaatggat taaaatngga ntnggaaaaa 360
 ncccntggnc tngttgggta ncaaactgga aaatnacngt ngttgtggga acc 413

<210> 113
 <211> 689
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 113
 tttagcagaa ttagagggtt tattagttgc tggtttgtat tgattataag tttataactt 60
 cagaattgaa ttagaaataa taagcattag caatcagcaa ggaaaaggng aacatctctg 120
 ctatttttcc tttaatgngt ttggcatatt caaaatccct gttttanaaa agaaataatg 180
 ttaaaacatg tttataatgg agaaagactn taggcacaga aataatattg cagaagcttt 240
 taaagngtct gttctgcaac ttattttaaa acccaaagga gaaaggatgg tacctgcccg 300
 ggcggccgct cgaaagccga attctgcaga tatccatcac actggcggcc gctcgagcat 360
 gcatntanag ggcccaattc gccctatagt gagtcgtatt acaattcact ggccgtcggt 420
 ttacaacgtc gtgactggga aaaccctggc gttacccaac ttaatcgctt tgcagcacat 480
 ccccttttcg ccagctggcg taatagcgaa nagggccgca ccgatcgccc ttncacacag 540
 ttgcgcaacc tgaatggcna atggaccnc cctgtaacgg ngcattaagc ncggcggggtg 600
 tgggtggtacc cncaacgtga ccgntacact tgccagngcc ctanccgccg ttcttttgc 660
 ttcttccttc ctttttcgcc acgtttgcc 689

<210> 114
 <211> 812
 <212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 114

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| aaatacaang | aagttaccgt | aagcaactgg | gccaccacat | gggtttccgc | accctacaag | 60 |
| atgaccccaa | gtcagtatgg | gctatacatg | ctgccaaagat | ccagagtgac | agagaatata | 120 |
| agaaagctta | tgagaagtct | aaaggaattc | acaacacacc | gttggacatg | atgtcaattg | 180 |
| ttcaagccaa | gaaatgccag | gtcctgggta | gcgacattga | ttatcgcaat | tatctgcacc | 240 |
| agtggacgtg | tctgccagat | cagaacgatg | tgatccaggc | caagaaagcc | tacgacctgc | 300 |
| agagcgataa | cttgtacctg | cccgggcggc | cgctcgaaaag | ccgaattcca | gcacactggc | 360 |
| ggccgttact | agtggatccg | agctcggtac | caagcttggc | gtaatcatgg | tcatagctgt | 420 |
| ttcctgtgtg | aaattgttat | ccgctcacia | ttccacacia | catacgagcc | ggaagcataa | 480 |
| agtgtaaagc | ctgggggtgcc | taatgagtga | gctaactcac | attaattgcg | ttgcgctcac | 540 |
| tgcccgcctt | ccagtcggga | aacctgtcgt | gccactgcat | taatgaatcg | gncaacgcgc | 600 |
| ggggagaagc | ggnttgcgta | ttgggcgctc | ttccgcttnc | tcgctcactg | actcgctgcg | 660 |
| ctcggncggt | cggctgcggc | gagcgggtatc | actnacttaa | angcggnaat | acnggtattc | 720 |
| acagaatcag | gggatacgcc | ggaaagaaca | tgtganccaa | aaggccncna | aagggccnga | 780 |
| accgtaaaaa | aggcccentt | gntggcgttt | tt | | | 812 |

<210> 115

<211> 559

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 115

| | | | | | | |
|------------|-------------|------------|-------------|------------|-------------|-----|
| cttgaaanac | tgctatgtaa | cgggtgtcct | tgatgtgttt | gaagtgagga | gtgtcacctg | 60 |
| gaagtctata | tccagtgggc | agggtgcgca | ggctgggttt | gtatanattc | aaactntgga | 120 |
| gctngtatgc | atgaagggcc | cggtcctaat | ccacgggttt | ggtagtgtga | gccactttgc | 180 |
| ctctgacact | gngcacatag | tcatagnngt | anacagcgctc | ncttagctgt | ttcccacttt | 240 |
| tgacagcctg | cacgtaaaact | ggtgtatctg | tgacaagctt | gnantcatnc | cttgttttca | 300 |
| acatgtgagc | tttatacttg | atatcatcac | gtanatcata | ancatgcttg | gcatggagga | 360 |
| tttcangagt | tgtoccanac | gtancaccaa | tgcttttcac | ccanttgagg | tcatccttgt | 420 |
| atacaatatc | gctgatctga | tctgggactt | cctgacgtga | tcattgactt | gcaagtcggg | 480 |
| ggtggcaaat | ccattcgngg | aggcccaggc | ggtaatcaat | ctcactgact | ttctttnngna | 540 |
| aatccttggc | antaacct | | | | | 559 |

<210> 116

<211> 724

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 116

| | | | | | | |
|------------|------------|-------------|------------|-------------|------------|-----|
| ttttaactcc | ggntccgaac | gccatcctct | cagagccaag | agggttact | ggaatgccag | 60 |
| tgatctacgc | tacaaagaaa | cattttcaaaa | gaccaaaggg | aaataccaca | cggtgaaaga | 120 |
| tgccctagac | attgtctatc | atcgcaaagt | cacagatgac | atcagtaaaa | taaaatacaa | 180 |
| ggagaactac | atgagccagt | tgggtatctg | gaggtccatt | cctgatcgctc | cagagcattt | 240 |
| ccaccaccga | gcagtcactg | acacagtcag | tgatgtaaaa | tataaagaag | acttgacttg | 300 |

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gcttaaaggc | attggttgct | atgcctatga | tacccttgat | ttcactctgg | ctgaaaagaa | 360 |
| caagactctc | tacagcaagt | ataagtataa | agaagtattt | gaaaggacaa | agtcagattt | 420 |
| caagtatggt | gccgactctc | cgatcaatag | gcatttcaag | tatgcaactc | aattgatgaa | 480 |
| tgagagaaaa | tataaatcta | gtgccaagat | gtttctgcaa | catggatgta | atgaaaattct | 540 |
| gcgtccagat | atgttgactg | ctctctacaa | ttcgcatatg | tggagccaga | tcaaactcagg | 600 |
| aaaaactatg | aaaaatcaaa | ggacaaattt | acctcaattg | tggatactcc | agaacacctg | 660 |
| cgtacctgcc | cgggcggncg | ttcgaaagcc | gaattctgca | gatatccatc | acactgggng | 720 |
| gncg | | | | | | 724 |

<210> 117

<211> 638

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 117

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| tgatcaacng | tcggaatgac | cntgtgattt | cagagactga | gctgaaacaa | gtggccttaca | 60 |
| ttttcaaagt | cgaaaaatca | actattcaga | taaaagggaa | agtaaaactcc | attataattg | 120 |
| acaactgtaa | nnaactcggc | ctggtgtttg | acaatgtggg | gggcattgtg | gaagtgatca | 180 |
| actcccagga | cattcaaadc | caggtaatgg | ggaaaagtgc | caacaatttc | cattaatnag | 240 |
| acagaagggt | gcacatatcc | tnagtgaaaa | tccttanact | gngagatcct | naaccccaaa | 300 |
| gtcatttgaa | atgaacatac | ttattcctta | aggatgggng | attatngaga | atttcccctt | 360 |
| tctgaacaat | tcaanacacc | ttggatngna | tcnaagttta | tnnctgnacc | cnnagaaatt | 420 |
| atgnccaact | ttccganana | acnaancccc | tttactgant | cccctttntt | naaccaaccn | 480 |
| aaaaaccncc | ttaagacttt | aaantgnntt | aaccccttan | tggtttttacc | ttgnctccan | 540 |
| gantttttng | cttnaaaacc | cacntngttt | tnggccccnt | ttgggccttt | tnnaaattta | 600 |
| ccgtncccnn | taaaangnnc | tttnggggga | attttttcc | | | 638 |

<210> 118

<211> 722

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 118

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| ctccnactgg | tgaatncctc | tgccccacn | gaatttttgg | tcatgggtant | ngaaggggat | 60 |
| naatnttccg | aaattncnnt | taattggggn | atnatggtna | ganaatgcct | tngacctnna | 120 |
| ccgcttgcca | aaatcatttt | gngggccgaa | cacagtttat | agagatcttc | acatatgtct | 180 |
| aaatgtnanc | atttttnacat | atctttacat | ncnnttnccn | catttttnngn | nttactttca | 240 |
| cgacatatat | tgctcacngc | gcaanttttg | gaacancatt | atgatanatt | tttcagttaa | 300 |
| tatgatgaag | ngcttcattc | ttaaaattat | gtggccacaa | gacaatcact | gaagcttctc | 360 |
| ggngaactac | tactanatag | acnncacttc | nccantatga | ccacatacct | cattaaacct | 420 |
| gngnacctcc | attaatgatg | aacctgcctg | cagacaaaag | tcggaacctt | ccantttgag | 480 |
| ggcttnacag | tttttaangg | ggntgtnnnc | caatccttac | taganagcag | gccattcctt | 540 |
| accatncttc | ttanaaacca | agccccncc | catttnagtt | ccttaccag | tttnntnaac | 600 |
| gacccggccc | gngggatnag | ccngtttaac | nacnggaaag | accttttttt | tttaccnanc | 660 |
| ccgggggttg | gananaaccn | gccctcctga | aacttnatcn | tcctntaana | tctttnttta | 720 |
| at | | | | | | 722 |

<210> 119

<211> 700

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 119

| | | | | | | |
|------------|------------|-------------|-------------|-------------|------------|-----|
| ctccntctgg | tgaatccctc | tgcccccaen | gaatttttgg | tcatgggtant | ngaaggggat | 60 |
| naatnttccg | aaatttcgat | taattggggg | atnatgggtna | ganaatgcct | tngacctcca | 120 |
| ccgcttgcca | aaatcatttt | gnngggccgaa | cacagtttat | agagatcttc | acatatgtct | 180 |
| aaatgtnanc | attttnacat | atctttacat | ncnnttnccn | catttttnngn | nttactttca | 240 |
| cgacatatat | tgctcacngc | gcaanttttg | gaacancatt | atgatanatt | tttcagtga | 300 |
| tatgatgaag | ngcttcattc | ttaaaattat | gtggccacaa | gacaatcact | gaagcttctc | 360 |
| ggngaactac | tactanatag | acncnacttc | nccantatga | ccacatacct | cattaaacct | 420 |
| gnnacacctc | attaatgatg | aacctgcctg | cagacaaaag | tcggaacctt | ccantttgag | 480 |
| ggcttnacag | tttttaangg | ggntgtnnnc | caatccttac | taganagcag | gccattcctt | 540 |
| accatncttc | ttanaaacca | agccccncct | catttnagtt | ccttaccag | tttntnaac | 600 |
| gaccggccc | ggnggatnag | ccngtttaac | nacnggaaag | accttttttt | tttaccnanc | 660 |
| ccgggggttg | gananaaccn | gcctcctga | aacttnatcn | | | 700 |

<210> 120

<211> 824

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 120

| | | | | | | |
|-------------|-------------|------------|-------------|------------|------------|-----|
| tggccaanct | ggaaccaagg | atttaataac | tattatgatc | aaggatatgg | aaattacaat | 60 |
| agtgcctatg | gtgggtgatca | aaactatagt | ggctatggcg | gatatgatta | tactgggtat | 120 |
| aactatggga | actatggata | tggaaggga | tatgcagact | acagtggcca | acagagcact | 180 |
| tatggcaagg | catctcgagg | gggtggcaat | cacccaaaaca | attaccagcc | atactaaagg | 240 |
| agaacattgg | agaaaacagg | aggagatggt | aaagtaacct | atcttgcagg | acgacattga | 300 |
| agattgggtc | tctgttgatc | taagatgatt | attttgtaaa | agactttcta | gtgtacctgc | 360 |
| ccggggcgcc | gctcgaaagc | cgaattctgc | agatatccat | cacactggcg | gccgctcgag | 420 |
| catgcatacta | gagggcccaa | ttcgccctat | agtgaagtcg | attacaattc | actggcccg | 480 |
| cgtttttaca | cgctcgtgact | gggaaaacct | tggcgttacc | caacttaatc | gccttgcagc | 540 |
| acatccccct | ttcgccagct | ggcgtaatat | cgaagagccc | gcaccgatcg | cccttccaac | 600 |
| agttgcgcag | cctgaatggc | gaatggacgc | ncccttggtan | cggcgcatca | aacccggcg | 660 |
| gggtgtngtg | gttacnccga | cgctgacccg | tacactttgc | cagcgcccta | acgcccgctt | 720 |
| cnttcgcttt | cttcccttcc | tttnttgcca | cgttngccg | ggtttcccg | caagctctaa | 780 |
| atcggggggc | ttcctttaag | ggttcogaat | taangctttt | accg | | 824 |

<210> 121

<211> 796

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 121

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| ntgggtgctn | gactgattct | gatgtttag | ctctgaatac | cttctccacc | tcgtttctgga | 60 |
| tggccatgat | ggactgccgc | tctccgtccg | cctcgggcag | cgtggccctg | aactgctcat | 120 |
| gcgcagtgat | cagactctgg | atctccctcaa | tgtctgtggac | aatgaacata | tcttgagat | 180 |
| cctccatagc | gccctccatc | caattgttga | aaggagcagc | cctcttggca | aactccagg | 240 |

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|------------|-----|
| gaagctgatac | aatgggtttct | agcaattttct | ccattctctc | tagggcttct | ctcctcttct | 300 |
| gagtaagcgt | tcccagtcgg | tcccactggg | cacaaatfff | ctggcaccga | tcattgacat | 360 |
| tcacagcgtc | gtgatagtcc | agttcattga | gctcctgcgc | gatggctgcg | atctgctcca | 420 |
| cgcgacctgc | ccgggcgggc | gctcgaaagc | cgaattctgc | agatatccat | cacactggcg | 480 |
| gccgctcgag | catgcatcta | gagggcccaa | ttcgccctata | gtgagtcgta | tacaaattca | 540 |
| ctggggccgcg | ttttacaacg | cgtgactggg | aaaaccctgg | cgttacccaa | cttaatcgcc | 600 |
| ttgnangaca | tcccccttgc | ccagttggcg | taatancgaa | naggcccgaa | ccgatcgccc | 660 |
| ttccnacagt | tgcacaacct | gaatggcaaa | tggncctccc | ctgaaccggn | cataaacnc | 720 |
| ggnggtgtgg | nggtaccccc | aangtgaccg | ttcactttgc | cnngcctacg | ccggtcnttt | 780 |
| gcttnttctt | tccttc | | | | | 796 |

<210> 122

<211> 801

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 122

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|-----|
| tgggttgcneg | agctgattct | gatgtttag | ctctgaatnc | cttctccacc | tcgttctgga | 60 |
| tggccatgat | ggactgccgc | tctccgtccg | cctcgggcag | cgtggccttg | aactgctcat | 120 |
| gcgcagngat | cagactctgg | atctcctcaa | tgctgtggac | aatgaacata | tcttgcatat | 180 |
| cctccatagc | gccctccatc | caattgttga | aaggagcagc | cctcttggca | aactccagggt | 240 |
| gaagctgatac | aatgggtttct | agcaattttct | ccattctctc | tagggcttct | ctcctcttct | 300 |
| gagtaagcgt | tcccagtcgg | tcccactggg | cacaaatfff | ctggcaccga | tcattgacat | 360 |
| tcacagcgtc | gtgatagtcc | agttcattga | gctcctgcgc | gatggctgcg | atctgctcca | 420 |
| cgcgacctgc | ccgggcgggc | gctcgaaagc | cgaattctgc | agatatccat | cacactggcg | 480 |
| gccgctcgag | catgcatcta | gagggcccaa | ttcgccctata | gtgagtcgta | ttacaattca | 540 |
| ctggccgctgc | ttttacaacg | cgtgactggg | gaaaaccctg | cgttacccaa | cttaatcgcc | 600 |
| ttgcagcaca | tcccccttgc | ccagctggcg | taatagcgaa | naggccgnac | cgatcgctt | 660 |
| ccaacagttg | cgcacctgaa | tggcgaatgg | acccccctgt | aaccggggca | ttaagcnccg | 720 |
| cgggtgtggt | ggttacccnc | ancgtgaccg | ttcacttggc | aacgncctac | gccccntctt | 780 |
| ttcgtcttct | tcctttcttt | c | | | | 801 |

<210> 123

<211> 709

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 123

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| cttgagatcn | cggaagatgt | gaattcgact | tgtttgcaag | gttgcaaaca | ccaagaaaga | 60 |
| aaccgttttc | aaatggctca | aggatgatgt | tctgtatgaa | acggagacac | tgccaaacct | 120 |
| ggagagggga | atctgtgagc | tctcatcccc | aaagtgtgca | aagaaggacc | acggcgaata | 180 |
| caaggcaacc | ttgaaagatg | acagaggcca | agatgtgtcc | atccttgaaa | tagctggcaa | 240 |
| agtgtatgat | gatatgattt | tggcaatgag | tagagtctgt | gggaaatctg | cttcgccact | 300 |
| gaaggtacct | gcccggggcg | ccgctcgaaa | gccgaattct | gcagatatcc | atcacactgg | 360 |
| cggccgctcg | agcatgcata | tagagggccc | aattcgccct | atagtgaatc | gtattacaat | 420 |
| tcactggccc | gtcgttttac | aacgtcgtga | ctgggaaaac | cctggcgcta | cccaacttaa | 480 |
| tcgccttgca | gcacatnccc | cttttcgccca | gctggcgtaa | tagcgaagan | gcccgcaccg | 540 |
| atcgcccttt | ccaacagttg | cgcaacctga | atggcaaatg | gacncnccct | gtaccggcgc | 600 |
| attaagcncg | gcgggtgtgn | ggttacccnc | agcgtgaccg | gtacacttgc | caggccctac | 660 |
| gcccgttctt | tcgtttcttc | ccttcctttt | ngccaenttn | gccggnnttt | | 709 |

<210> 124
 <211> 634
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 124
 ctgggatgtc cggaagaatg tgaagttcga cttgtttgca aggttgcaaa caccaagaaa 60
 gaaaccgttt tcaaatggct caaggatgat gttctgtatg aaacggagac actgcctaac 120
 ctggagaggg gaatctgtga gtcctcctc ccaaagttgt caaagaagga ccacggtgaa 180
 tacaaggcaa ccttgaaaga tgacagaggc caagatgtgt ccatccttga aatagctggc 240
 aaagtgtatg atgatatgat tttggcaatg agtagagtct gtgggaaatc tgcttcgcca 300
 ctgaagggtcc tgcccgggcg gncggtcgaa agccgaattc tgagatatc catcacactg 360
 gcggggccgtt cgagcatgca tctagaaggc ccaattcgcc ctatagttag tcgtattacc 420
 aattcacttg ggcgcgcntt tacaacgtnn tgactgggga aaaccctggg gttncctact 480
 taatnccntt gaagacattc ccnntttngc cagctggcgt aataaccaaa aaggcccgac 540
 cgatcggcct ttccaacaag ttgcncaccc tgaattgnca atggccccc cttttaccgg 600
 gcanttaacc ccgcnggtn tggggggtac cccc 634

<210> 125
 <211> 570
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 125
 nntntttgcn taactnatac cctttgacta gttnnatccc ttgtaacgta gtagttgtct 60
 gctctttgtc catgtgttaa tgaggactgc aaagtccctt ctgttgtgat tcctaggact 120
 tttcctcaag aggaaatctg gatttccacc taccgcttac ctgaaatgca ggatcaccta 180
 cttactgtat tctacattat tatatgacat agtataatga gacaatatca aaagtaacaa 240
 tgtaatgaca atacatacta acattcttgt aggagtgggt agagaagctg atgcctcatt 300
 tctacattct ggcattagct attatcacct aacgtttcaa tggatccctt cagaaataaa 360
 gcagcatatg aattaaaaaa aaannnnntt aaaaaaaaag cttgngncct gccggggcgg 420
 gccgntnnaa aaccnaaatt ccagccactt gggggggcgt tactaagggg anccaaactt 480
 cgngcccaac cnttgggtaa atcatnggca anantgggt cccctgggng naaantgntn 540
 ttccgnttca ccaatttccc accaaatttc 570

<210> 126
 <211> 723
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 126
 tattatccac gtnttgatct cctgccaat ggccttgaag cacccttgc acttggggga 60
 gtcctccga gtggtgcaact tgttgacacag gatcttgttg tccttggcca caaaggtctc 120
 attggccaag ggggaaggc acttggcaca gcggaagcag gtgtcatgcc agaagcgggt 180
 cttatagtgc acctccttgg agtccgcacc gatgggcttg cggcattcca cacaggtgtt 240
 ggcacagaac ttgtcaaagc atttcaggca gcagtgggtg ccatcctttt gcacatactt 300

```

cttccccctgc aaggggateccc tgcagtagtg gcagtgcaaac ttctccgcca tgggtgcccac 360
cttgtagctg gagggacctg agtgtctatg ggaagccatg gctcagagac caagttcagg 420
agcagcacct agaccagtct tccacctgcc cgggcggccg ctcgaaagcc gaattctgca 480
gatatccatc acactggcgg ccgctcgagc atgcatctag agggcccaat tcgccctata 540
gtgagtcgta ttacaattca ctggccgncg ttttacaacg tcgtgactgg gaaaaccctg 600
gcgttaccca acttaatcgc cttgcancac atcccccttn gccaaactggc gtaatancca 660
aaaaggccng acccatcgnc ctttccaaca gttgcncaac ctgaatggcn aatggaccgc 720
cct 723

```

<210> 127

<211> 519

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 127

```

tacaatctgg gcaaaccgac tggatgatggc aagagtgggtg tcaatgaagc ggtctacaca 60
gctggagaga caattttcag tgcgagagtc taggcgattc cctggcttct ccacacattt 120
atcccaacat aactccatga agtgatgcac ctgtgcagta aactgcgcct tctactgcc 180
gggcggccgc tcgaaagccg aattctgcag atatccatca cactggcggc cgctcgagca 240
tgcattctaga gggcccaatt cgccctatag tgagtcgtat tacaattcac tggccgctcg 300
tttacaacgt cgtgactggg aaaaccctgg cgttacccaa cttaatcgcc ttgaagcaca 360
ttcccccttn ggcagctngc gtaatancca aaaaggcccg accgattggc cnttccaaaa 420
ggttgcccac cctgaaatgg caaatggacc cccccttgta ccggggcant taaccccgcc 480
gggttttggg ggttaccccc caacgtgacc ggttcaatt 519

```

<210> 128

<211> 533

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 128

```

tncaatctgg gcaaaccgac tggatgatggc aagagtgggtg tcaatgaagc ggtctacaca 60
gctggagaga caattttcag tgcgagagtc taggcgattc cctggcttct ccacacattt 120
atcccaacat aactccatga agtgatgcac ctgtgcagta aactgcgcct tctactgcc 180
gggcggccgc tcgaaagccg aattctgcag atatccatca cactggcggc cgctcgagca 240
tgcattctaga gggcccaatt cgccctatag tgagtcgtat tacaattcac tggccgctcg 300
tttacaacgt cgtgactggg aaaaccctgg cgttacccaa cttaatcgcc ttgnagcaca 360
ttcccccttn ggcagctngc gtaatancca aaaaggcccg accgattggc cnttccaaaa 420
ggttgcccac cctgaaatgg caaatggacc cccccttgta ccggggcant taaccccgcc 480
gggttttggg ggttaccccc caangtgacc ggttcaattg gcaagggcct taa 533

```

<210> 129

<211> 722

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 129
ncaatctggg caaaccactg gtgatggcaa gantggtgtc aatgaagccg gctacccagt 60
tgganaaaca tttttaaggg caaaagttaa ggcaattccc tggtttttcc acacntttat 120
cccaanntan ntenttgaag agatgcncnt gtgcagaaaa gtgcccttta nantgccggg 180
gngncnntn aaaaacccaa ttncagcac atngngggcc gttactaggg ganccgatct 240
nggcccaatn tgggcgtaat cntggtaata gctgtctccn gngnaaaatt gttntccgct 300
cacnnttcca cacatcatac gagccggatc ataangtnna aagccngggg tgcctaataga 360
gngagctaac tcacattaan tgcgtcgenc tnaactgccct ntttccagnn gnnnaaacct 420
gtcnggccag cttgcattaa tgaatcgcca ccgcgcgaag agaggcgggt tngtatnng 480
gcgctcttcc gcttcctcgn tcaactgactc gntgcgctcg gncgttcggn tngggcgagc 540
ggtatcagct cactcanngg cggtaatacg gntatccaca agagcagggg gatacgang 600
aaagaacatg taagcaaaaag gccagcaaaa ggccaggaac ccgtaaaaaa gccnngttgc 660
tggcnttttt ccatagggct nccgnccccc tggccnagca ttnacaaaaa ttngacgctt 720
at 722

<210> 130

<211> 398

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 130
tnaatctgcg caaaccgact gntgatggca agagtgggtg caatgaagcg gtctacacag 60
ctggagagac aattttccagt gcgagagtct aggcgattcc ctggtttctc cacacattta 120
tcccaacata actccatgaa gtgatgcacc tgtgcagtaa actgcgcctt ctactgcccg 180
ggcggccgct caaaaagccg aattccacac antggcggcc gctactagng gatccganct 240
cggnaccaa cttggcgtaa tcatgggtca tagctgnctn ctgtgnnaaa ttgttatccg 300
ntcacaattc cacacaacat acgagccngg aaagcataaa gntgtaaagc ctgggggtgcc 360
taatgagtgg agctaactca cattaattgc gttgcgct 398

<210> 131

<211> 593

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 131
tgctgacctg cgagcctgac atccttacca ggagcctnag ggaacccagc cagcacagca 60
gcagcagcct tgccctctatg agatcaaaca gtttcttgga gtgtgcccag aaccaggggtg 120
acatcaagct ctgtgagggg ttcaatgagg tgcgtgaaaca gtgccgactt gcaaacggat 180
tggcctaatt aagaagttca acctggagag atggaaaatc agctctcata actaagttaa 240
tttagtataa aaatagaatt gatagtgang gtataaagtg taccatcagt taaacctctt 300
ctggcattcc taacttncnt gcttnaaaat tgnaatggaa ntnggggtgt cctacttgta 360
aatctnngac tgggccaatg gttgnngnc ctccttaact aactggnaag gtatgaattt 420
attccttggg gagttaatng aanaaagcct ttttcnttcc aaaaaaaaaa nnnnnaaaaa 480
aaaagcttgg nccttccng ggggcnnttt naaaacccaa ttttggnaaa ttccttacan 540
ctggggggcn nttaaaccct ccttttaaa ggcccaatnc cccctatggg ggc 593

<210> 132

<211> 663

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 132

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| nctgncctgc | gagcctgaca | tcacttacca | ggagcctcag | ggaacccagc | cagcacagca | 60 |
| gcagcagcct | tgccctctatg | agatcaaaca | gtttctggag | tgtgcccaga | accagggtgg | 120 |
| catcaagctc | tgtgagggtt | tcaatgaggt | gctgaaacag | tgccgacttg | caaacggatt | 180 |
| ggcctaataga | agaagttcaa | cctggagaga | tggaaaatca | gctctcataa | ctaagttaat | 240 |
| ttagtataaaa | aatagaattg | atagtgaggg | tataaagtgt | aaccatcagt | taaacctctc | 300 |
| ctgtcattcc | tagcttcctt | gcttcagaat | tgaaatggaa | gtgggggtgt | ccctactctg | 360 |
| tagaatctgg | gactgggcaa | atgtttgtgt | ggcctcctta | aactagctgt | tatgttatga | 420 |
| ttttattctt | tgtgagttaa | ttagaataaa | gtcattttct | tccaaaaaaa | anaanattnn | 480 |
| naanaaaaaa | aaagcttgta | cctgcccggg | cggccgttcg | aaagccgaat | tccagcacac | 540 |
| tggcgcccg | tactagtga | tccgactcgg | tccaaacttg | gcgtaatcat | ggccatagct | 600 |
| gttncctgng | gtgaaattgt | tatccgctca | caattccaca | caacatacga | gcccggaagc | 660 |
| ctt | | | | | | 663 |

<210> 133

<211> 415

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 133

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| nttttgcata | cngacgagaa | attggcaagc | cgtaacccaa | accagccaaa | ggagcattcc | 60 |
| gggaattatc | catcacaggc | gttggtgcag | tggagtatgt | ataactaaag | aggcgggtcaa | 120 |
| taattctcag | gggaacacca | ccccctctgt | ctgaaatctt | aatggtaagg | tcttcttttc | 180 |
| ccaagacaac | aataacctct | attggtgtaa | gggaaggctg | attttcctgg | tgttcaactg | 240 |
| gtgcccgc | tgcatctcta | aaccaagcna | accntnangg | attcaatngc | nnaagaatta | 300 |
| aggccattaa | tggttttttt | tttttaaggt | taaaattaaa | gntcccnaaa | ggntattcca | 360 |
| aggteccant | tttttaaagt | angnnntaaa | ccacnttngn | aattcccttt | ntnaa | 415 |

<210> 134

<211> 794

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 134

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| aacagggtgt | ttatcttcaa | ccccaaaaaa | ggagattgga | aagatctggc | tccaatgaaa | 60 |
| attcctcggt | ccatgtttgg | agtagcagtc | cataaaggca | aaattgtgat | tgaggagggt | 120 |
| gtcactgaag | atggtctttc | agcttoagtt | gaagcttttg | accttacaac | aaataaatgg | 180 |
| gatgtaatga | ccgaatttcc | ccaagaaaga | agctccatca | gtttggctcag | cctggctgga | 240 |
| tctctgtatg | caattggtgg | ttttgctatg | attcaactgg | agtctaaaga | atttgcaccc | 300 |
| actgaagtca | atgacatatg | gaagtatgaa | gatgataaaa | aagaatgggc | tgggatgttg | 360 |
| aaggaaatac | gttatgcttc | aggagctagt | tgtctagcaa | cacgtttaaa | tctcttcaaa | 420 |
| ctgtctaaac | tgtgaacaag | gtgacaaaac | ataatagatt | gggagggtgg | ttgtttgggtg | 480 |
| aatggggcct | taatttatcc | tgttttttta | aagcttgtac | ctgcccgggc | ggccgctcga | 540 |
| aagcccgaat | tctgcagata | tccatcacac | tggcgccgcg | tcgagcatgc | atctagaggg | 600 |
| cccaattcgc | cctatagtga | gtcgtattac | aattcactgc | cgtcgtttta | caacgtcgtg | 660 |
| actgggaaaa | ccttggcgtt | acccaactta | atcgcccttg | acacatcccc | tttcgccact | 720 |

ggcgtaatac cgaagagccc gcaccgatcg ccttccaaca gttgcgcacc tgaatggcna 780
atggacncgc cttt 794

<210> 135
<211> 371
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 135
aacagggngt ttatcttcaa ccccaaaaaa ggagattgga aagatctggc tccaatgaaa 60
attcctcgtt ccatgttttg agtagcagtc cataaaggcn aaattgngat tgcaggaagn 120
gncactgaan atggnccttc ancttcagtt gaagcgtttg nccntnccac caattaatgg 180
gatggnatga ccnnatttnc ccaagaaaga aactcncctn catttggcaa ccnggttggg 240
ctctgtgtgn ccatgggggg gttgcntnan tcaccngggg actanaaaaa ttgcnccccc 300
ttnnaccnng gncctttggg aattttanaa ttttataaaa aaaaggggccc nganntntaa 360
aggnaaccct t 371

<210> 136
<211> 630
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 136
naaacagggt gtttatcttc aacccccaaa aaggagattg gaaagatctg gctccaatga 60
aaattcctcg ttccatgttt ggagtagcag tccataaagg caaaattgtg attgcaggag 120
gtgtcactga agatggtctt tcagcttcag ttgaagcttt tgaccttaca acaaataaat 180
gggatgtaat gaccgaattt ccccaagaaa gaagctccat cagtttggtc agcctgctgg 240
atctctgtat gcaattgggt gttttgctat gattcaactg gagtctaaag aatttgcacc 300
cactgaagtc aatgacatat ggaagtntga agatgataaa aaagaatggg ctgggatgtt 360
gaagggaata cgttatgctt caggagctag ttgcctacaa cacgtttaa tctnttcaaa 420
ctgntaaact gngaccangg ggcaaanctt antaaattgg gaggggggtt gttngnaaat 480
ggggctttta ataaaccggg ttttnaaacc ttgccttcc cgggngggcc tttnaaaacc 540
caattttggg aaaatccctc aacntggggg gcnttnaann tnnctttaa ngggcccaaa 600
ttncctcttt atggggnnct tttacaattc 630

<210> 137
<211> 575
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 137
naaacagggt gtttatcttc aacccccaaa aggagattgg aaagatctgg ctccaatgaa 60
aattcctcgt tccatgtttg gagtagcagt ccataaaggc aaaattgtga ttgcaggagg 120
tgtcactgaa gatggtcttt cagcttcagt tgaagctttt gaccttaca caaataaatg 180
ggatgtaatg accgaatttc cccaagaaag aagctccttc agtttgggtc gcttgggtgg 240
atctctgtat ncaattgggg gttttgctat nattcanctg gagtntaaan aatttgcnc 300

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cactgaagtc | aatgncntat | ggaagtntga | anatgntaaa | aaanaatggg | ctgggatgtt | 360 |
| gaaggaaata | ccttatgctt | caggagctan | ttgcctagca | acacgtttaa | atctnttnaa | 420 |
| actgtctaaa | ctgtgaacaa | gngacaaaa | catnataaat | tgngaggngg | ttnttttnga | 480 |
| naatggggct | ttaatttact | nggtttttaa | ananttgccn | ntccccgggg | gggctntnaa | 540 |
| acccattttt | caccagtg | gggggcnttc | tnggg | | | 575 |

<210> 138

<211> 771

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 138

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| aaacagggtg | tttatcttna | ccccaaaaag | gagattggaa | agatctggct | ccaatgaaaa | 60 |
| ttcctcggtc | catgtttgga | gtagcagtc | ataaaggcaa | aattgtgatt | gcaggaggtg | 120 |
| tcaactgaaga | tggcttttca | gcttcagttg | aagcttttga | ccttacaaca | aataaatggg | 180 |
| atgtaatgac | cgaatttccc | caagaaagaa | gctccatcag | tttggtcagc | ctggctggat | 240 |
| ctctgtatgc | aattgggtgg | tttgctatga | ttcaactgga | gtctaaagaa | tttgcacca | 300 |
| ctgaagtcaa | tgacatatgg | aagtatgaag | atgataaaaa | agaatgggct | gggatgttga | 360 |
| aggaaatacc | gttatgcttc | aggagctagt | tgccctagcaa | cacgcttaaa | tctcttcaaa | 420 |
| ctgtctaaac | tgtgaacaag | gtgacaaaac | ataatagatt | gggaggtggt | ttgtttggtg | 480 |
| aatggggcct | taattttatt | tgntttttta | aagcttgctc | tgccgggcgg | ncgctcgaaa | 540 |
| gccgaattcc | agcacactgg | cggccgttac | tagtggatcc | gagctcggtc | caagcttggc | 600 |
| gtaatcatgg | ncatagctgg | ttcctgtgtg | aaattgggtat | ccgntcacia | tttcacacia | 660 |
| catcganccg | gaagcctaaa | gtgtaaaacc | tgggggtgcct | aatgagttag | ctactcacat | 720 |
| taattgcgtt | gngctcactg | gccgnttttc | antcgggaaa | cctgtcgtgc | c | 771 |

<210> 139

<211> 391

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 139

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| tggggccncc | ntgccgtgct | gtccctctac | gcctccggca | ggaccccgcc | atcgtgctgg | 60 |
| actccggcga | cggcgtcacc | cacaacgtgc | ccatttatga | gggctacgcg | ctgccgcacg | 120 |
| ccatcatgcg | cctggacctg | gcgggccgcg | atctcaccga | ctacctgatg | aagatcctca | 180 |
| ctgagcgtgg | ctactccttc | gtgaccacag | cttgaacgcg | aagatcgtgc | gccaaatcaa | 240 |
| gggagaaaact | gngctacgtg | ggcctggaat | ttcaaggagc | aagaatgnca | acgggcccgt | 300 |
| tcntcttctt | ccttgaaaaa | aactnncaac | ttgcnaaacg | gccaggnnt | anccttnggc | 360 |
| accaacnnct | tcgggtgccc | ggccggcngt | t | | | 391 |

<210> 140

<211> 684

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 140

56/122

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| tgtggccatc | cagccgtgct | gtccctctac | gcctccggca | ggaccccggc | atcgtgctgg | 60 |
| actccggcga | cggcgtcacc | cacaacgtgc | ccatttatga | gggctacgcg | ctgccgcacg | 120 |
| ccatcatgcg | cctggacctg | gcgggcccgcg | atctcaccga | ctgcctgatg | aagatcctca | 180 |
| ctgagcgtgg | ctactccttc | gtgaccacag | ctgagcgcga | gatcgtgcgc | gacatcaagg | 240 |
| agaagctgtg | ctacgtnggc | cctgacttctg | aggacganat | ggcnacgggc | cgcttcttct | 300 |
| tccttggaag | agagctacna | nctgccanac | gggcagggtca | tcaccatcgg | caacgnacgc | 360 |
| tttccattgc | ccgggcccgc | gntcnaaccc | aattctgcan | atntccatca | cactggcggc | 420 |
| cggtngagca | tgcantntana | gggcccatt | cgccctatag | ngaagtcgta | ttacaatttc | 480 |
| actggggcgc | gtttttacaac | gtntngactt | gggaaaaccc | ttgnggttcc | caaacttaat | 540 |
| cgccttgga | ganattcccc | ttttcnccag | tnggnntaat | tccaanaggc | ccnnacccga | 600 |
| tnggcctttc | caaanagttg | cccancntng | aatggnaaat | ngncccccn | ctgttanccg | 660 |
| ncaatnaacc | gnnggggggtt | nggg | | | | 684 |

<210> 141

<211> 668

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 141

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| gacgaggccg | gcccttcctc | gtccaccgca | aatgcttcta | gacacactcc | acctccagca | 60 |
| cgcgacttct | caggacgacg | aatcttctca | atgggggtggc | tggagctcag | ccgcccacct | 120 |
| gcccggggcg | ccgctcgaaa | gccgaattcc | agcacactgg | cgcccggttac | tagtggatcc | 180 |
| gagctcggta | ccaagcttgg | cgtaatcatg | gtcatagctg | tttctgtgtg | gaaattgtta | 240 |
| tccgctcaca | attccacaca | acatacgagc | cggaaagcata | aagtgtaaag | cctgggggtgc | 300 |
| ctaattgagt | agctaaactca | catttaattgc | gttgcgctca | ctgcccgtt | tccagtcggg | 360 |
| aaacctgtcg | tgccagctgc | attaatgaat | cggccaacgc | gcggggagag | gcgggtttgcg | 420 |
| tattggggcg | tnntcgcttc | ctcgctactg | actcgctgeg | ctcggtcggt | cggctgcggc | 480 |
| gaacgggtatc | agctnactca | aaggcgggta | ataccgggtat | ccacagaatc | aggggatacg | 540 |
| caggaaagaa | catgtgaacc | aaanggcaca | aaagggcagg | aacccgtaaa | agggcncggt | 600 |
| gctggcggtt | ttncatangc | tccgnccccc | ttgacaagca | ttacaaaaat | tcgacgctta | 660 |
| agttaaaa | | | | | | 668 |

<210> 142

<211> 308

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 142

| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|-----|
| cagaattctt | cctcggcctc | cttcagcagc | tgggtggcct | tcgccatata | cttttcattc | 60 |
| ttatgttctt | caaaccgggc | tctcatcaaa | caagcaaagt | atcggtatct | gtctctctgg | 120 |
| acgcaccacg | actcgaggtg | ggcggtanccg | ccgcttataa | agccgnacac | ctttggttga | 180 |
| atgggttaagg | tagggtccca | ncnccaagac | cgcntttccg | ggcnacnngc | ccggccggcc | 240 |
| gttcaaaaanc | cnatttcnac | ncnnttgngg | gccgtacnna | nggantccaa | cntngnnccc | 300 |
| ancntggg | | | | | | 308 |

<210> 143

<211> 621

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 143

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttaacacctt | aatcttaagc | catgtcctca | tctgcccacc | ctncccaacc | cacatacctc | 60 |
| cattccactt | gtgacacccc | ctcgactccc | tggtagcgct | cctcccagat | cgctctacat | 120 |
| gacattcagg | acacacacac | acacacacac | acaccactcg | ccttcactga | atctacacac | 180 |
| agattttact | gngacttntn | aanctgngga | taaattggaa | ttttttatgn | aggctctctc | 240 |
| tctgccaatt | tcaataccaa | tcatntttca | atggaaaatc | attaccttga | anagtgcatt | 300 |
| ccgggttcct | tgngttaggg | acttaagaat | ctgagggcag | gacccccagg | cttacctntn | 360 |
| ggactcaaag | ggagccagga | ccccatctga | aagggnctnc | tntntcnttg | gggganaggg | 420 |
| cggtgggtga | cccaggattg | ccccctgtg | cnttaaaaaa | anggtttnt | ntntttcanc | 480 |
| nctnntttta | anccggttca | aagggnnaac | tntncttcc | nggngggcgn | tnaaaaacca | 540 |
| atttgngnaa | tcctnnaaat | ggggngctc | aacnntcnt | tataggggcc | atttcccntt | 600 |
| tatgnggggg | tttaaaaaaa | a | | | | 621 |

<210> 144

<211> 727

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 144

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| ttacacctta | atcttaagcc | ctgtcctcat | ctgcccaccc | tccccaaccc | acatacctcc | 60 |
| attccacttg | tgacaccccc | tcgactccct | ggtgacgctc | ctcccagatc | gctctacatg | 120 |
| acattcagga | cacacacaca | cacacacaca | ccactcgctt | ccactgaatc | tacacacaga | 180 |
| ttttactgtg | acttctgaag | ctgtggataa | attggaatth | tttatgttgt | ctctctctct | 240 |
| gccaatthca | atacgaatca | tcttccaatg | gaaaatcatt | accttgaaga | gtgcattcgg | 300 |
| ggttccttgc | gttagggact | taagaatctg | aggcgaggac | ccccaggctt | acctgtagga | 360 |
| ctcaaaggga | gccaggaccc | catctgaaaag | ggtctcctct | ctcagttggg | ggacaggccg | 420 |
| gtggctgacc | caggattgca | ccagcatgtc | catagagaag | aggttttcta | tgtcttcaag | 480 |
| cactatatca | tagtccgtgt | tcaaagtgtg | aactgtacct | gcccggggcg | ncgntcgaaa | 540 |
| gcccgaattc | cagcacactg | gcggccgtta | ctagtggatc | cgancctcgt | accaagcttg | 600 |
| gcgtnatcat | gggcatagct | ggttctgtgt | gaaaattgnt | atccgntcac | attcncacaa | 660 |
| ctacganccg | naagcntaaa | gtgtaaagcc | tgggggtgct | aatgagtgan | ctaantcaca | 720 |
| ttaattg | | | | | | 727 |

<210> 145

<211> 646

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 145

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| tntttaactt | nccctttgaa | tttccctttt | tttttgcac | aaaaagcttt | atttccattt | 60 |
| ggtccaaggg | ttgttaggat | agttaanaaa | gctgcctatt | ggctggaggg | anaggcttag | 120 |
| gcagaagccc | tattactttg | caaggggccc | ttcaaaaagc | gctgggctca | aaaggctctt | 180 |
| antcgtgctt | gaaagtgagc | ctttcgaana | gatactcgcc | cagcccagcc | tccggggccac | 240 |
| ccagcctgtg | gaggttggtc | agggtgtcac | ccatcttctt | gataagcttc | acttcctcat | 300 |
| ctaggaagtg | agtctccagg | aagtcacaga | gatgggggtc | cgtgcgggca | naacccaggg | 360 |
| catgaagatc | caaaagggcc | tggttcagct | ttttctccag | ggccatggca | gctttcatgg | 420 |
| cgtctggggg | tttaccacac | tcatcttcag | ctggcttctt | gatgtcctgg | aanaaagccg | 480 |

58/122

```

gccgcacgct ggttttgcac nttagggana cctcgtanc ccttgcgctt ntcctgggca 540
atttngcgga aaaagtggct cacccttcca aancncatn atcgnggmcn aaatanaagc 600
ccanaaanag gtaggtgtan ggaggcctgc agtnccaaat tggcca 646

```

<210> 146

<211> 754

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 146

```

cactcctgga cactctgtct ctggcttctt tctgcctage tcatctctag ccaatcttac 60
agttatataat ctttaagccct cttctctttg ttctttaagt tatatatcct aagccctctt 120
tgctttgttc tctgggatat tttatccaca tccatggctc taatcatttt gctagagact 180
acaaaatttc catccaaagc tcagctcttt ctctcatgtt ctctgacct atgtagacaa 240
ttggcctcat gaacatttga acacaaagac acctcaaatt caacatgtcc ccagatgaac 300
taaaaaaaaa aaaaaaaaaa aaaaaaagct tgtacctgcc cggggcgccg ctcgaaagcc 360
gaattccagc acactggcgg ccgttactag tggatccgag ctccggtacca agcttggcgt 420
aatcatggtc atagctgttt cctgtgtgaa attgttatcc gtcacaattc cacacaacat 480
acgagccgga agcataaaagt gtaaagcctg ggggtgcctaa tgagtggagc aactcacatt 540
aattgcgttg cgctcactgc ccgctttcca gtccggaaac ctgtcgtgcc agctgcatta 600
atgaatcgcc caacgcccgg gganaggcgg tttgcgtatt gggcgctctt ccgcttcctc 660
ntcactgact cgctgcgctc ggctcgttcg ntgcggcnag cgggtatcag cttactcaaa 720
ggcggaataa ccggtattnc ncagaatcag gggg 754

```

<210> 147

<211> 764

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 147

```

gacgacctac gcacacgaga acatgcctct cgcaaaggat ctcccttcac cctctccaga 60
agaggagaag aggaacacaca agaagaaacg cctgggtgcag agccccaatt cctacttcat 120
ggatgtgaaa tgcccaggat gctataaaat caccacggctc tttagccatg cacaaacggg 180
agttttgtgt gttggctgct ccactgtcct ctgccagcct acaggaggaa aagcaaggct 240
tacagaagga tgttccttca ggaggaagca gcactaaaag cactctgagt caagatgagt 300
gggaaaccat ctcaataaac acattttgga tgaaaaaaaa aaaaaaaaaa aaaaaaaaaa 360
aaaagcttgt acctgcccgg gcggccgntc gaaagccgaa ttccagcaca ctggcggcgg 420
ttactagtgg atccgagctc ggtaccaagc ttggcgtaat catggncata gctgnttctt 480
gngtgaaatt gntatccgct cacaattcca cacaacatac gagccggaag cataaagtgt 540
aaagcctggg gtgcctaatt agtgagctac tccattaatt gcgttgcgct cactggccgc 600
ttttcagtcn ggaaacctgt cgtgccactg nattaatgaa tcgggcaacg cncngggaaa 660
agcngttgcg tatttgggag ctnttccgct ttcttggtta actgactngc ttgngcttcg 720
gocgttcggn ttgnggcaaa cgggtttcan cttacttaaa aggg 764

```

<210> 148

<211> 586

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis
Porcine

```
<400> 148
ccatagcccc caggctgcaa agaagatgga ggtggataaa tggggcagcc acatggctaa      60
cagacaaggt agggacagag gcggtacctg cccggggcggc cgctcgaaa cgaattcca      120
gcacactggc ggccgttact agtggatccg agctcggtag caagcttggc gtaatcatgg      180
tcatagctgt ttcctgtgtg aaattgttat ccgctcaciaa ttccacaciaa cttacgagcc      240
cggaagcata aagtgtaaa cctgggggtgc ctaatgagtg agctaactca cattaattgc      300
gttgcgctca ctggccgctt tncaatcggg aaacctgtcg tggccacttg cattaatgaa      360
tcggncacag cnccgggaaa agcngtttgc gtattggcgc tcttcgctt nctngnttac      420
tgactcgnat ggctcggctg ttcggntgag gcaaccggtn taantnactc aaaggcggna      480
anacggtnt tcnanaatc ngggataccn cnggaaaaaa cttntaacca aaaggccnca      540
aaaggccaga aaccttaaaa aggcccttt cttgngggtt tttcaa      586
```

<210> 149

<211> 750

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

```
<400> 149
cttttttttt ttttttcaat gttcagtttc ctttaatgac ccccatntcc ctgaagggca      60
ggtgcaggca gntaggtgat ggcaanaaat gttcacttga anatnttgcc ctgattgaag      120
gctttgcca catgctggaa ggccccntcc caggaaaagt acttttnaac cancntntgg      180
gtctcctcgn tgccagnatc cagtttccgc catgtgtatn actcgtagtc cacttgccaa      240
tntggactca gcggaaggc aagctcctgg cctcggaana cccaaactcc aaaaatggan      300
ctgctattgt tggttccaaa aaggatgacn ctggcaaaagg cntnttccct cagnttgccc      360
agtcgctgga acnttccagt gatgaaattg cagctcatga aggtntgagt gagttnttca      420
gggaagcgat actntgagta cctgccccgg ggccggttca aaagccgaat tccagcacac      480
tggcggccgt tactagtga tccganctcg gtaccaactt ggcgtaatac tggcatagct      540
gttcctgtgt gaaattgtat ccgtcacaat tcccacaaca tacganccgg aagcctaaag      600
tgtaaagcct ggggggccta atgagtgagc taactcacat taattgcgtt gcncttactg      660
cccgttttca gtcgggaaac ctttctgcca ctgcattaat gaatngggca acccccgggg      720
aaaagcgggt tgcntattgg gcccttttcc      750
```

<210> 150

<211> 674

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

```
<400> 150
tgtcattgct gtctcttggg ggcagcagga atacgtgagg caaagcccag ttgccctact      60
tcaggatgtc tgccaacttc tctcgtagt ataggaagtt ctctgaatg tctctccagg      120
gctgaaaggc cttggattca ccctcttctt gctccacaaa attctgccag acatattcga      180
agtctctggg cttcatgatg cgcagtttac agccagcctc cttcagcttc ttcagagcag      240
cctggatctc cggctcctcc cacatgaaga gtcgaccac cagaatgagc agacgcagg      300
tcttggctct gctaagggtt ttgataatgc ggtcagcaca cgctgcacag gggctggagg      360
acacatacca ngtgacattg tacctgcccg ggcggggcgt cgaaagcccg aattcttgca      420
gatatccatc acactggcgg ncgctcgagc atgcatctag agggccaatt cgcctatagt      480
gagtcgnatt acaattcact ggccgtcgtt tacaacgtcg ngactgggaa aaccctggng      540
ttaccactt aaacgccttg gagacattcc cctttnnnca gctggcgtaa tancgaaaa      600
```

60/122

ggcccnaccg atcgnccttc caaagttggg cannctgaat ggngaangga cccccctgt 660
acggggcatt taac 674

<210> 151
<211> 685
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 151
ttgaggtcgc nctnacgcaa actgcagatc tttgtgaaga ccctcactgg caaaaccatc 60
gcccttgagg tgcagcccag tgacaccatt gagaatgtca aagccaaaat tcaagacaag 120
gagggtatcc cacctgacca gcagcgtctg atatttgccg gcaaacagct ggaggatggc 180
cgactctctc cagactacaa catccagaaa gagtccaccc tgcacctggg gttgcgcctg 240
cgaggtggca ttattgagcc ttctctccgc cagcttgccc agaaatacaa ctgcgacaag 300
atgatctgcc gcaagtgcta tgctcgcctt caccctcgtg ctgtcaactg ccgcaagaag 360
aagtgtggtc acaccaacaa cctgcgtccc aagaagaagg tcaaataagg ttgttctttc 420
cttgaatggc agcctcctgc ccaggccccc tggccctgga gcctcaataa agtgtccctt 480
tcattgacta ggaaaaanan attnnctnct aaaanaaaaa acttgtagct gcccgggcgg 540
ccgctngaaa agcccgaatt ccagcacact gggcgccgt tactagtgga tcncnagctc 600
ggntcccaan ctttngcgta attnngggtc atagctgttt tctgtgnga aaattgntat 660
tncgcttaac aatttcenca caatc 685

<210> 152
<211> 545
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 152
ttgaggtcgc nctnacgcaa actgcagatc tttgtgaaga ccctcactgg caaaaccatc 60
gcccttgagg tgcagcccag tgacaccatt gagaatgtca aagccaaaat tcaagacaag 120
gagggtatcc cacctgacca gcagcgtctg atatttgccg gcaaacagct ggaggatggc 180
cgactctctc cagactacaa catccagaaa gagtccaccc tgcacctggg gttgcgcctg 240
cgaggtggca ttattgagcc ttctctccgc cagcttgccc agaaatacaa ctgcgacaag 300
atgatctgcc gcaagtgcta tgctcgcctt caccctcgtg ctgtcaactg ccgcaagaag 360
aagtgtggtc acaccaacaa cctgcgtccc aagaagaagg tcaaataagg ttgttctttc 420
cttgaatggc agcctcctgc ccaggccccc tggccctgga gcctcaataa agtgtccctt 480
tcattgacta ggaaaaanan attnnctnct aaaanaaaaa acttgtagct gcccgggcgg 540
ccgct 545

<210> 153
<211> 522
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 153
agagctntga tgagacngct cagtcagtct attgaagact tagaaaagtg gagcgcctat 60

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| ccagtgggcc | ggagcagatc | accctcgagc | cagcagcact | gagggacacc | caggggctcc | 120 |
| cagccctcag | cacaccgacc | agaccgaggc | cttccagaaa | gggggtcccac | accagaaga | 180 |
| tgaccactca | caggtagaag | gaccggagag | cttaagatga | gactcattgt | gtggtttgag | 240 |
| actgtcctgc | cggcggccgt | cgaaagccga | ttcacacact | gcggcgtcta | gtggatcgac | 300 |
| tcgtccactt | gcgtatatgc | tactgttctg | gtgaatgttc | gtacattccc | actcaccgga | 360 |
| gataatgaag | ctggngctat | atactataat | atggtnctat | gcnttcacg | aactgctcac | 420 |
| tgatatatcg | cacccggaag | cgtnntntgn | cttctntctgt | atatntgctn | gctngttgga | 480 |
| cgntactnta | agggatcgtt | tcaaatngga | tcccggaaac | tt | | 522 |

<210> 154

<211> 541

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 154

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|-------------|-----|
| ttcanangct | ttgagtgaga | ccagctcagt | cagtcattat | gaagacttag | aaaagggtgga | 60 |
| gcgccctatcc | agtgggcccgg | agcagatcac | cctcgaggcc | agcagcactg | agggacaccc | 120 |
| aggggctccc | agccctcagc | acaccgacca | gaccgaggcc | ttccagaaaag | gggtcccaca | 180 |
| cccagaagat | gaccactcac | aggtagaagg | accggagagc | ttaagatgag | actcattgtg | 240 |
| tggtttgaga | ctgtacctgc | ccgggcccgc | gctcgaaaagc | cgaattccag | cacactggcg | 300 |
| gccgttacta | gtggatccga | gctcggtacc | aagcttggcg | taatcatggt | catagctggt | 360 |
| tcctgtgtga | aattgttata | cgctcacaat | tccacacaac | atcagagccg | gaagcataaa | 420 |
| gtgtaaagcc | tggggtgcct | aatgagttag | ctaactcaca | tttaattgcg | ttgcgctcac | 480 |
| tgcccgcctt | ccagtcgggg | aaacctgtnn | tgccagcttg | catttaatga | atcggccaac | 540 |
| g | | | | | | 541 |

<210> 155

<211> 834

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 155

| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|-----|
| gcgggtgtccg | gcaagagact | accaagacag | acgctatgac | tgaggctgat | gtgaatccaa | 60 |
| aggccctatcc | ccttgccgat | gcccaacctca | ccaagaagct | actggacctc | gttcagcagt | 120 |
| catgtaacta | taagcagctt | cggaaaggag | ccaatgaggc | caccaaacc | ctcaacaggg | 180 |
| gcactctctga | gttcacgtg | atggctgcag | acgcccagcc | actggagatc | attctgcacc | 240 |
| tgccgctgct | gtgtgaagac | aagaatgtgc | cctacgtggt | tgtgcgctcc | aagcaggccc | 300 |
| tggggagagc | ctgtgggggc | tccaggcctg | tcacgcctg | ttctgtcacc | atcaaagaag | 360 |
| gctcgagct | gaaacagcag | atccaatcca | ttcagcagtc | cattgaaagg | ctcttagtct | 420 |
| aaacctgtgg | cctctgccac | gtgctccctg | ccagcttccc | ccctgagggt | gtgtatcata | 480 |
| ttactgtgtg | tagcatgtag | tattttcagc | tactctctat | tgntataaaa | tgtagtacct | 540 |
| gcccgggccc | ncgctcgaaa | gccgaattct | gcagatatcc | atcacactgg | cggccgctcg | 600 |
| agcatgcac | tagagggccc | aattcgccct | atagttagtc | gtattacaat | tcactggccg | 660 |
| tcgntttaca | acgtcgtgac | tgggaaaacc | ctggcgttac | ccaacttaat | cgccttgac | 720 |
| acattcccct | ttcgccagct | ggcgtaatat | ccnaaaaggc | ccgnaccgat | cggnccttcc | 780 |
| aacagttgcg | caacctgaat | ggcnaatgga | cccccttgt | accngcatt | aacc | 834 |

<210> 156

<211> 634

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 156

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| gagctctgat | gagaccagct | cagtcagtct | attgaagact | tagaaaaggt | ggagcgccta | 60 |
| tccagtgggc | cggagcagat | caccctcgag | gccagcagca | ctgagggaca | cccaggggct | 120 |
| cccagccctc | agcacaccga | ccagaccgag | gccttccaga | aaggggtccc | acaccagaa | 180 |
| gatgaccact | cacaggtaga | aggaccggag | agcttaagat | gagactcatt | gtgtggtttg | 240 |
| agactgtacc | tgcccgggcy | gccgctcgaa | agccgaattc | tgagatatac | catcacactg | 300 |
| gcgccgctc | gagcatgcat | ctagagggcc | caattcgccc | tatagttagt | cgtattacaa | 360 |
| ttcactggcc | gtcggtttac | aacgtcgtga | ctgggaaaaac | cctggcggtta | cccaacttaa | 420 |
| tcgccttgca | gcacatcccc | ctttcgccag | ctggcgtaat | agcgaagagg | cccgacccga | 480 |
| tcgccccttc | aacagttgcy | cagcctgaat | ggcgaatgga | cgcgccctgt | agcggcgcat | 540 |
| taagcgcggc | gggtgtggtg | gttacgcgca | gcgtgaccgc | tacacttgcc | agcgccctac | 600 |
| gcccgcctct | ttcgctttct | tccttccttt | ctcg | | | 634 |

<210> 157

<211> 613

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 157

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| ttanacatca | anttgcgaag | ggaaaacatc | ctcaccgttc | gctctgcggc | atggtcctct | 60 |
| ccatccaggt | tacctgtgtg | cagcgacagc | cagcctttac | ggtgggcat | gtagtgcggc | 120 |
| gcgtgtgcct | cctcgtaggt | caccggcttg | tcctcccttg | ttacgcgtac | ctgcccgggc | 180 |
| ggccgctcga | aagccgaatt | ccagcacact | ggcgccgctt | actagtggat | ccgagctcgg | 240 |
| taccaagctt | ggcgtaatca | tggtcatagc | tgtttcctgt | gtgaaattgt | tatccgctca | 300 |
| caattccaca | caacatacga | gccggaacat | aaagtgtaaa | cctgggggtgc | ctaattgagtg | 360 |
| agctaactca | cattaattgc | gttgcgctca | ctgnccgttt | tccagtcggg | aaacctgtcg | 420 |
| tgccanntgc | attaatgaat | cggccaaccc | cggggaaaag | gcggtttgcy | tattgggcgc | 480 |
| ttttccgntt | cctngctcac | ttgactcgtg | ccttcggctg | ttcggnntgc | ggaaaagcgg | 540 |
| tattaagctt | aacttaaaag | gggggtaaat | accggtntnc | cacaaaaatc | nggggggaatn | 600 |
| acccccggga | aaa | | | | | 613 |

<210> 158

<211> 481

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 158

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| attcacatga | acttgcaag | gaaaacatcc | tcacggttcg | ctctgcggca | tggtcctctc | 60 |
| catccaggtt | acctgtgtgc | agcgacagcc | agcctttacg | gtgggcatg | tagtgcggcg | 120 |
| cgtgtgctc | ctcgtaggtc | accggcttgt | cccccttgct | tacgcgtacc | tgcccgggcy | 180 |
| gccgctcgaa | agccgaattc | tgagatatac | catcacactg | gcggccgctc | gagcatgcat | 240 |
| ctagagggcc | caattcgctt | atagttagtc | gtattacaat | tactggccg | cgttttacaa | 300 |
| cgctgtgact | gggaaaacct | ggcgttacca | aattaatcgc | cttgagcac | attcccctt | 360 |
| tcgccaaactg | gcgtaatacc | aaaaaggccg | gaaccgatcg | cctttcaaca | gttncancc | 420 |
| tnatggcaaa | tggaccccc | tgtaccgggn | attaaccn | cggtttggg | gtaccccaac | 480 |

g

481

<210> 159
 <211> 787
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 159
 cccacatgaa ttgcgaagga aaacatcctc accgttcgct ctgcggcatg gtcctctcca 60
 tccagggttac ctgtgtgcag cgacagccag cctttacggt ggcgatgta gtgcggcgcg 120
 tgtgctctct cgtaggtcac cggcttgctc cccttgctta cgcgtacctg cccgggcggc 180
 cgctcgaaag ccgaattcca gcacactggc ggcggttact agtggatccg agctcggtag 240
 caagcttggc gtaatcatgg tcatagctgt ttctgtgtg aaattgttat ccgctcacia 300
 ttccacacaa catacgagcc ggaagcataa agtgtaaagc ctgggggtgcc taatgagtga 360
 gctaactcac attaatggcg ttgcgctcac tgcccgttt ccagtcggga aacctgtcgt 420
 gccagctgca ttaatgaatc ggccaacgcy cggggagagg cggtttgct attggcgct 480
 ctccgcttc tcgctcactg actcgctgcy ctgggtcgtt cggctgcggc gagcggtagc 540
 aagctcactc aaaggcggtg atacggttat ccacagaatc aggggataac gcaggaaaga 600
 acatgtgagc aaaaggccag caaaaggcca ggaaccgtaa aaaggccgcy ttgctggcgt 660
 ttttncatan gctccgccc ctgacaacat acaaaaatcg acgctcaagt caaaagtggc 720
 gaaacccgac aggactatta agaaaccang cgtttccctt ggaacttct tngcgctnt 780
 ctgttcc 787

<210> 160
 <211> 429
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 160
 ttgacatgnc ttgcgaagaa aacatcctca ccgttcgctc tgccgcatgg tcctctccat 60
 ccagggttac tgtgtgcagc gacagccagc ctttacggtg ggcgatgtan tngcgcgcy 120
 tgtgctctct cgtaggtcac cggnttgctc cccttgctna cgcgtacntg cccgggcggc 180
 cgttcnaaag ccgaattctg caaatatcca taaaannggc ggccggttca acctnncntt 240
 naaagggccn anttnnccnn atangnanc gantnncant caannggccg cngtntacaa 300
 aacntcngaa nngggaaaaa ccnngncgtt accnanctna atcgctcttg cagaatatcc 360
 ctttttcnaa nttggcgtaa tcnaaaanag gcccgacca atcgcntttc caaacatttg 420
 cacactcaa 429

<210> 161
 <211> 713
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 161
 nttaaattct aatgttcttg agccatttga gaattagtaa tttttaaaca gacatattaa 60
 tgctggagtg tagagaatat aattaaatat atcaaaaata tatcttttaa gcctagaaaa 120

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|-----|
| tggaatgcctt | tggaattacct | tcaatttcagg | gtagagaaaa | gcccttccta | ctgaattagg | 180 |
| ctctgaacat | gtgatttctt | tccctaacac | tagtttttcc | aatctactaa | tttattttata | 240 |
| aacaaagcaa | agtaagagat | atttttgctg | ttactttgac | aattctctct | ctccaatccc | 300 |
| caacatcccc | agttcagtg | acatctaaca | attcactcaa | gactaggcac | ctgacaataa | 360 |
| gtgtttactt | agtgggtgtaa | agtgaacaag | aaaagcagca | taataaagga | ctgngttttt | 420 |
| atcagaggag | ccttccttct | gagtttttac | ataagttgat | gccttactgc | acctttgaat | 480 |
| acaatgcttt | gaattttgaa | cacttgaata | aaangttnga | agctttgaat | aaaatcctcc | 540 |
| tctttcanag | taaaccttat | tttagnacca | gcattccttc | catagcncat | aaatntgtnc | 600 |
| aaaatgtnc | tgcccggg | gcccgtaaaa | agccgaattc | cagnanactt | ggcgccggtt | 660 |
| actaggggga | cccaanctng | gncccaaact | tgggcgnaat | cangggccat | acc | 713 |

<210> 162

<211> 792

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 162

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| tntntccagc | ctggacaaca | agaagcgaaa | ctctgtctaa | aaaaaaaaaa | aaaaaaaaaca | 60 |
| cacacacaca | acacaatggt | ttcacgcctg | taaacctagc | acattgggaa | gccaaggtgg | 120 |
| gaggattgct | tgaggccagg | agttcaaggc | tgcagtga | tatgattgca | ccactgcact | 180 |
| gcagcttggg | tgacagagt | agatcctgtc | tcaagaagaa | gaagaaggag | aagaagaaga | 240 |
| cgatgactag | gaagatataa | aagcagaggt | gtaggagagg | acaggctgta | agggtcacat | 300 |
| gatgtaattc | ccggtgcctc | ttcctctaca | cgtaaataag | gggaaagagc | tatcttgaat | 360 |
| ggctgcggt | aggattagat | tgaatagcaa | acatttaagc | atctggcaga | naaggggtat | 420 |
| ccgaagtagt | cagtgtcctg | cctccctcct | ccaggcctca | ctgtgactga | nctggctgct | 480 |
| gacaacctga | gtctttatct | catgacctga | gagcttttcc | aagccacaca | gggacaactg | 540 |
| taattgcccc | aagggcanac | gaaaattccc | agaantgaac | tctcaaaggc | tgtaaatatt | 600 |
| ccaactccct | catcttgagt | gggaataatc | tacacggaat | caagctccan | ttgccacaaa | 660 |
| tgggcggggc | cttcatggnt | tntctccttc | cctggatact | cttactccca | tnaatgcttc | 720 |
| ctgggatcat | tcttaacta | atgncctnna | acttgcattg | gggctacttt | tggggaaccc | 780 |
| caancttaaa | nt | | | | | 792 |

<210> 163

<211> 521

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 163

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atncagtttc | cacatcgatg | agcacgtggt | nacatcattg | cactttccaa | gggacttcc | 60 |
| tagaactggt | aagngganca | antantcctt | nccentgggt | nnnntggtna | acaccttnaa | 120 |
| aacanccntg | ggtttcacnn | nnntggggct | ngaccatttt | naanctgcca | tgnggacttg | 180 |
| cacaaaantt | ccacttctnt | gccccatntg | gttctngngc | ntttatanct | gcggcanatt | 240 |
| cntctccgag | ntgtaaatac | actgccccat | gttgaanang | gccnanctgc | cnggggcggc | 300 |
| cgctcnanaa | ttccaccana | ggtggcnggn | gttactaggg | gntcnnnctt | ggcaccantn | 360 |
| ttggcgtaat | cntggtcata | gcttgcttcc | tgaganaaat | tgtcatccgc | ncanantncc | 420 |
| acacnacnta | ccagccggat | ncatanngtg | taaagcctgg | ggtgccta | gagtgaacta | 480 |
| acttacatta | attgcgntga | cntactgcct | ncttttcagg | a | | 521 |

<210> 164

<211> 714

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 164

| | | | | | | |
|-------------|------------|------------|-------------|------------|-------------|-----|
| tnttcctttg | tgaacataga | tcctttttct | tggtggaaat | actgagtttt | ggttttgcta | 60 |
| ttcagcatgt | ccttctttct | cttcttggct | gcaacatcat | agttcaggct | gttggaaaaga | 120 |
| ttctccttat | tgtatacctc | cttggtgcag | tagctgctga | ggctcgtcac | gaaactgccg | 180 |
| ctctttctcat | ccaggaagcg | cttcagccg | tcggccgtct | tcacccagtt | ctgcccgggc | 240 |
| ggccgctcga | aagccgaatt | ctgcagatat | ccatcacact | ggcggccgnt | cgagcatgca | 300 |
| tctagagggc | ccaattcgcc | ctatagttag | tcgtattaca | attcactggc | cgtcgtttta | 360 |
| caacgctcgtg | actgggaaaa | ccctggcggt | acccaactta | atcgcccttg | agcacatccc | 420 |
| cctttcgcca | gctggcgtaa | tancaaaaag | gcccgnaccg | atcgcccttc | ccaacagttg | 480 |
| cccancctga | atggaaatgg | acccccctgt | acggggccatt | aancncggcg | gtgtggnggt | 540 |
| nacccccaac | ntgaccggtt | acacttgcca | gcgccttagc | gcccgtcctt | tcgctttctt | 600 |
| cccttccttt | ctcgccacgt | tcgcgggctt | tcccgcgtnaa | gctctaaatc | gggggctccc | 660 |
| tttaggggtc | cgatttaagn | gctttacggc | accttgaccc | caaaaaactt | gatt | 714 |

<210> 165

<211> 541

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 165

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| ttcctttgtg | aacatagatc | ctttttcttg | gtggaaatac | tgagttttgg | ttttgctatt | 60 |
| cagcatgtcc | ttctttctct | tcttggctgc | aacatcatag | ttcaggctgt | tgaaaagatt | 120 |
| ctccttattg | tatacctcct | tgttgcagta | gctgctgagg | tcgctcacga | aactgcgcgt | 180 |
| cttctcatcc | aggaagcgct | tccagccgtc | ggccgtcttc | acccagttct | gcccgggcgg | 240 |
| ccgctcgaaa | gccgaattct | gcagatatcc | atcacactgg | cggccgctcg | agcatgcac | 300 |
| tagagggccc | aattcgccct | atagttagtc | gtattacaat | tcactggccg | tcgttttaca | 360 |
| acgtcgtgac | tgggaaaacc | ctggcggttac | ccaacttaat | cgccttgtag | cacatcccc | 420 |
| tttcgccagc | tggcgtaata | gcgaagaggc | ccgcaccgat | cgccttccaa | cagttgcgca | 480 |
| cctgaatggc | gaatggacnc | nccctgtanc | ggcgcattaa | acncngcggg | tgtggtggta | 540 |
| c | | | | | | 541 |

<210> 166

<211> 617

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 166

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|------------|-----|
| tgancecccc | acctctgact | ctccgggtgta | ggagggtgatc | atcaggcaat | ctcttggggc | 60 |
| ttaaaggggtg | cgcagtcgtc | ctcagccagt | gagatgttgt | gacaaggggt | tttttgctgg | 120 |
| atgggttttaa | aaacacagac | aaatttaggc | ccatcccatt | ttctcagatc | tttttttgag | 180 |
| aattgaggca | ttttaaataa | ggggtagaaa | tggccccctg | gtgtggtctt | cccaagggtt | 240 |
| tatggagggg | atttcagact | gttataacaa | tagatcttga | acctctgcca | tgtggagaaa | 300 |
| agccaatttta | gcaaaactaga | agaatgaaaa | ggaaaaaaat | catggccaaa | actttgggaa | 360 |
| aaagatgttc | ttaaaatcat | tgttcccctt | tgtttgtacc | tgcccgggcg | gccgctcgaa | 420 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| agccgaattc | tcgagatc | catcacactg | gcgcccgctc | gagcatgcat | ctagagggcc | 480 |
| caattcgccc | tatagtgagt | cgtattacaa | ttcactgccc | gtccggttta | caacgtcgtg | 540 |
| actgggaaaa | ccctggcggt | acccaactta | atcgcccttg | cagcacatcc | ccctttcgcc | 600 |
| actggcgtaa | tagcgaa | | | | | 617 |

<210> 167

<211> 715

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 167

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| tagatcccc | agcctctgac | tctccgtgta | ggaggtgac | atcaggcaat | ctcttgggccc | 60 |
| ttaaaggggtg | cgcagtcgtc | ctcagccagt | gagatgttgt | gacaaggggtt | tttttgcctgg | 120 |
| atgggtttta | aaacacagac | aaatttaggc | ccatccatt | ttctcagatc | tttttttgag | 180 |
| aattgaggca | ttttaataa | ggggtagaaa | tggcccccctg | gtgtgggtctt | cccaagggttt | 240 |
| tatggagggg | atttcagact | gttataacaa | tagatcttga | acctctgcca | tgtggagaaa | 300 |
| agccaattta | gcaaaactaga | agaatgaaaa | ggaaaaaaat | catggccaaa | actttgggaa | 360 |
| aaagatgttc | ttaaaatcat | tgttccccctt | tgtttgtacc | tggccgggcg | gccgctcgaa | 420 |
| agccgaattc | tcgagatc | catcacactg | gcgcccgctc | gagcatgcat | ctagagggcc | 480 |
| caattcgccc | tatagtgagt | cgtattacaa | ttcactggcc | gtcgttttac | aacgtcgtga | 540 |
| ctgggaaaaac | cctgcccgtta | cccaacttaa | tcgccttgca | gcacatnccc | ctttcgccag | 600 |
| ctggcgtaat | acgaaaaggc | ccgcaccgat | cgcccttcca | acagttgcgc | agcctgaatg | 660 |
| gcnaatggac | gccccctgta | ncggcgcat | aagcgccggc | gggtgtggtg | ggtac | 715 |

<210> 168

<211> 820

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 168

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| tagtcagatc | tcgatgggtg | agagcatcgg | ctgggttccc | attggctcgt | tggatgtgga | 60 |
| aaagtgcaca | agggcaactg | aaattttgag | tgataaaatc | tatcgccagc | cttcagacac | 120 |
| attcaaattt | accagtgtgc | ctgattctnt | ggaacaagtg | ttggccaaga | acaacgccat | 180 |
| naacatgaac | aagcgtttat | nccccngaan | cctnggacna | agaccagacc | cagatcncat | 240 |
| tatgcctgat | cnccagaaat | tatgttggcc | agaatgaacc | agattnactt | ccgggagact | 300 |
| ntgtattaac | tngccnatga | anaanccnag | aaaaaaggnt | tcnancctgng | aaatgatgcc | 360 |
| nttcccattg | tgggcccnaa | ggctntccgg | gcaattgnna | gngcttncat | ncaaattggt | 420 |
| tccccaanca | nntttggncc | canttgagcc | ccggacattt | aaaatnnncc | ccanaatatt | 480 |
| ngggcccttc | cctnggccaa | ttcccantgn | ccngagtagc | ctttcccggg | ggggcctttt | 540 |
| aaaaccattt | tnccacactt | gngggggcgt | ttcttttttg | ntncccnctt | tgggnccaaa | 600 |
| ttttttggga | aaattgggnt | aatgggtttc | ccgtgggaaa | aangntntcc | cctnncaaat | 660 |
| ntttccaca | ttttancccg | gagncntaa | angttaaanc | ccggggggcn | cattaagngg | 720 |
| gccnnncccc | ttaattgggg | ggggcccctt | ggcccttttt | tannggggaa | annttttngc | 780 |
| cncnnccttt | tttnaantng | ccccccccc | gggggggggg | | | 820 |

<210> 169

<211> 808

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 169

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|-----|
| ntttntntaat | ccatcatctt | caattgaagt | aaacttgaga | gtttctggat | gttggcgata | 60 |
| ttttttctca | ttcagaatgt | ctgaagctcg | ctttgccttt | tccattttcca | aggaccctaaa | 120 |
| aggtatccag | ccacaacctt | tcattccagct | gttgtagtca | gctttgtatt | caacatcgct | 180 |
| ctgcagcgca | taagccttct | tggcgaggctc | cacgttgatg | ctatcaggcg | ggtagctata | 240 |
| gttgtgtaag | aggtgcttat | agtccacgctc | gctggcaatt | gcctgagatt | tcttagcttg | 300 |
| agtgaacttg | agcatgtcaa | gaggtgcccgt | gtagatagtt | ttggactttt | catagtcttt | 360 |
| acgatattca | cgatcactct | ggtttttggc | cgtcttcaaa | gagtgaaca | ttttgggac | 420 |
| atcggttgatg | ctgagggctc | caatcatctt | ccctttgctt | ttctcatagt | ctttcttgta | 480 |
| cctgcccggg | cgccgctcgc | aaagccgaat | tccagcacac | tggcgcccgt | tactagtga | 540 |
| tccgagctcg | gtaccaagct | tggcgtaatc | atggcatagc | tgtttcctgt | gtgaaattgn | 600 |
| tatccgtcac | aattncaca | acatacgagc | ccggaacata | aagtgtaaac | ctggggtgcc | 660 |
| taatgagtga | ctaactcaca | ttaattgcgt | tgcgctcact | ggccgctttt | caatcnggaa | 720 |
| acctgtcntg | ccactgcatt | aatgaatcgg | caacncnccg | ggaaaagcng | tttgcgatt | 780 |
| gggcgctntt | tcnctttctn | gntaatga | | | | 808 |

<210> 170

<211> 789

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 170

| | | | | | | |
|-------------|------------|------------|------------|-------------|-------------|-----|
| aacctttatt | ttgtgtgtga | aatggttatt | aagtccttct | atcagggttag | gattccaatg | 60 |
| aaaagtgttc | tcataaacat | ctctagggct | cagttgtatg | tcattgtagcg | aggagtagca | 120 |
| ctgaacttgg | cataggactt | aataacctta | tttacagctt | ccaagaaatc | cttctccgta | 180 |
| gcaatttttc | gccgtgctcg | gatggcaaac | ataccagctt | cagtgccagac | acttctgac | 240 |
| tcagcaccgc | tgctatttgg | acagagtcgt | gctaacaatt | caaactctgat | atctctttca | 300 |
| acactcattg | aacgggcatg | gatcttaaaa | atgtgagtc | gaccccttag | atcaggtaag | 360 |
| ctaaactcaa | tcttcctgtc | cagtctccct | ggcctcatca | gcgctgggct | canagtgtca | 420 |
| ggctctgtttg | tggccattac | actttaatgt | tgccctgagg | atcaaaccgc | tccagctggg | 480 |
| tgatcaattc | caacatcgct | tntgcacttn | atgncacccc | cagcaccatc | atcaaaacgg | 540 |
| gcccctncaa | tagcatcgat | tcatacaaga | agataaggca | ggctttcttg | ggctctggcca | 600 |
| tttcaaanac | ttntnnaacc | attcgagccc | cttaccacat | acttttggac | aaagctcana | 660 |
| cccaataact | cgaatgaanc | aagccttggg | cctgttaaca | actgccnana | cncaaagtgt | 720 |
| tttgccctgt | acctgcccgc | gcgggcccgt | naaagccnaa | ttccncaaan | tggggggcgt | 780 |
| tctaanggn | | | | | | 789 |

<210> 171

<211> 644

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 171

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| ttatgtattg | tcgtgttaggt | ataagcttac | tagcagtgtg | aacacataag | cttggatcan | 60 |
| agctnctgca | aattcaagaa | tagttaatag | aatgaggata | gtaaaatgtg | taaaagctgt | 120 |
| tatagtgttg | atgttgagta | gtgctaattg | ggccctccca | attagatgaa | ttaatagggt | 180 |
| ccctgctgta | atgttggctg | tcagtcgtac | ggctagggct | actgggtgaa | taaatagggt | 240 |

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| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| aatagtttca | ataattncga | gcntangaat | tnataggng | ggtgttcctt | gtggtaaaaa | 300 |
| gtgggctntt | gatgttttgg | gtttatancg | gaancctgtg | aataccggng | ctgatcatag | 360 |
| ggggatngct | nttccnctg | tatngaaann | tgtgtggngg | gngtgaanna | angtgggant | 420 |
| angccccaga | tnttttttna | cccnntaaaa | ttnttttnaga | tattnnnnntt | tnnggncacg | 480 |
| gntggccntt | tgggngngaa | nancntnttt | tgnntggan | ntnnnnnggn | naancntngn | 540 |
| gganccaaan | ttgcnggntt | ttaaananac | nttnggggtt | nggaaaannn | anccngggaa | 600 |
| attatanttt | nngggggcac | nnnggggncc | ntntttngg | gggg | | 644 |

<210> 172

<211> 784

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 172

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|-----|
| tactttctact | atccctgccg | ttctagcagc | tggcattact | atactactga | cagaccgcaa | 60 |
| cctgaacaca | accttttttg | atccagcagg | tgggtggagac | cctatccctt | atcaacactt | 120 |
| gttctgat | ttcggacacc | cagaagtata | cattctcatc | ttaccaggat | tcggaataat | 180 |
| ctcccacatt | gtaacctact | attcaggtaa | aaaagaacca | tttgatata | taggcatagt | 240 |
| atgagccata | atgtccattg | gattcttagg | ttttattgta | tgggctcacc | acatattcac | 300 |
| cgtaggaata | gacgtagata | cccgagcata | ctttacatct | gctacaataa | tcattgctat | 360 |
| tcccactgga | gtaaaagtat | ttagttgatt | agctaccctg | cacggcgcca | atattaaatg | 420 |
| atcaccgcga | atactatgag | ctctgggctt | catcttccta | ttcaccgtag | gaggtctaac | 480 |
| gggcattgta | cctgcccggg | cgccgcctcg | aaagccgaat | tccagcacac | tggcgcccg | 540 |
| ttactagtgg | atccgagctc | ggaccaagct | tggcgtaatc | atgggtcatag | ctggttcctg | 600 |
| tgtgaaatgg | tatccgntca | caattcccac | ancatacgag | ccggaagcat | aaagggtaaa | 660 |
| gcctgggggtg | cctaatagagt | gactactcac | attaatggcg | ttgcgctnat | ggcccgtttt | 720 |
| cantcgggaa | actgncttgc | cactgnntaa | ngaateggca | acncccgggg | anaggcggn | 780 |
| tgct | | | | | | 784 |

<210> 173

<211> 733

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 173

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| ttagacttct | actatccctg | ccagttctag | cagctggcat | tactatacta | ctgacagacc | 60 |
| gcaacctgaa | cacaaccttt | tttgatccag | cangtgggtg | agaccctatc | ctttatcaac | 120 |
| acttggtctg | atTTTTcgga | caccagaag | tatacatctt | catcttacca | ggattcggaa | 180 |
| taatctccca | cattgtaacc | tactattcag | gtaaaaaaga | accatttgga | tatataggca | 240 |
| tagtatgagc | cataatgtcc | attggattct | taggttttat | tgtatgggct | caccacatat | 300 |
| tcaccgtagg | aatagacgta | gatacccgag | catactttac | atctgctaca | ataatcattg | 360 |
| ctattcccac | tggagtaaaa | gtatttagtt | gattatgcta | ccctgcacgg | cggcaatatt | 420 |
| aaatgatcac | ccgcaaatac | tatgagctct | gggcttcata | ttcctattca | ccgtaggagg | 480 |
| tctaaccgggc | attgtacctg | ccngnccggc | cgctcgaaaa | gccgaatttc | agcacactgg | 540 |
| cggccgttna | ctagngggan | ccgagctcgg | taccaagctt | ggcgtaaata | atgggtcatag | 600 |
| ctgnttccctg | tgtgaaattg | tatcccgctc | acaattccac | aacancatnc | gagcccgga | 660 |
| accataaant | tgtnnagcct | ggggggcgct | aatgaggtgg | agccttactt | nncatttaata | 720 |
| tgccnttgcg | cnc | | | | | 733 |

<210> 174

<211> 712

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 174

| | | | | | | |
|------------|-------------|-------------|-------------|------------|-------------|-----|
| tntacttcta | ctatccctgc | cagttctagc | agctggcatt | actatactac | tgacagaccg | 60 |
| caacctgaac | acaacctttt | ttgatccagc | aggtgggtgga | gacctatcc | tttatcaaca | 120 |
| cttgngtctg | atthtttcgga | caccagaag | tatacattct | catcttacca | ggattcggaa | 180 |
| taatctcca | cattgtaacc | tactattcag | gtaaaaaaga | accatttgga | tatataggca | 240 |
| tagtatgagc | cataatgtnc | attggattct | taggngttat | tgtatgggct | caccacatat | 300 |
| tcccgtagga | atatacntaa | tcccagagcat | actttacatc | tggacaataa | tcattgggtat | 360 |
| tcccactgga | gtaaaagtnt | ttagttgatt | agctaccctg | cacgggggna | atthttaaatg | 420 |
| atncccnca | atactttgaa | cnttgggctt | aatcttctta | ttaccgtagg | aggnttaacg | 480 |
| ggcattggac | ctgcccgggc | ggccgttnaa | aagccgaatt | ccngcaattg | ggggccggtt | 540 |
| tagggggatc | caacnttggg | ccaacttggg | gtaannangg | gnatacnggt | ncctgggaaa | 600 |
| aangntntcc | gtcaaattcc | ncacaattcn | gacccggaan | cntaaagggn | aaacntgggg | 660 |
| ggcctaanga | ggggncnanc | tcnttaatn | gggttgnnct | cactgnccnt | tt | 712 |

<210> 175

<211> 779

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 175

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| ttctaggggt | ttagtgggtg | aattcctggt | gggtggtcagc | aacctcctaa | ttcgggtggt | 60 |
| gggtgctaggc | ttgagtggta | gaaagctcaa | aagaatccag | tgaagaacag | aacctcggaa | 120 |
| ataataaata | aaattatacc | gtatcgtaag | ccttttttga | caactgatgt | gtgggtggcct | 180 |
| tggaagtgc | tctctcgaat | aatgtctcgt | caccattgggt | atattgtcaa | agtattgggt | 240 |
| aatagtcccta | gagatagtaa | gagtatagag | ttaaagtggga | atcatatagt | taggcctgat | 300 |
| gttattaaaa | gggctggtag | ggctccggta | agtggtcattg | ggcttgggtt | tactatgtgg | 360 |
| tatgcattgtg | tttgggtgggt | ccccgcgtac | ctgccggggc | ggncgctcga | aagccgaatt | 420 |
| ctgcagatat | ccatcacact | ggcggggccgc | tcgagcatgc | atctagangg | cccaattcgc | 480 |
| cctatagtga | gccgnattac | aattcactgg | ncgtcgthtt | acaaccgttn | ngactgggaa | 540 |
| aaccttggcg | ttaccctaact | taatcgccct | gcagcacatn | cccctttcgc | cagcttggcg | 600 |
| taatagcgaa | aagcccgnac | cgatcgccct | cccacagttg | cgcaacctta | atngcnaatg | 660 |
| gcccgccttg | taaccggggc | cattaagcnc | ggcnggntgt | gggtgggtacc | cncaangtga | 720 |
| cccgttnnan | ttggcagngg | cccntnacnn | ccngttcctt | tggntttntt | nccttcccn | 779 |

<210> 176

<211> 722

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 176

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| gcttttctaga | aacggatata | accttgacta | gagagtaaaa | tcttaatact | accatagtag | 60 |
| gcctaaaaagc | agccatcaat | tgagaaagcg | ttaaagctca | acaaattcac | caacataatc | 120 |
| ccaaaaacta | ataacaaact | cccagcccaa | taccggacta | atctattgaa | acatagaagc | 180 |

| | | | | | | |
|-------------|-------------|------------|-------------|------------|------------|-----|
| aataatgtta | atatgagtaa | caagaagcct | ttctcctcgc | acacgcttac | atcagtaact | 240 |
| aataatatac | tgataattaa | caaccaataa | accaaaaaaa | aaaaaaaaaa | gaaagtacct | 300 |
| gcccggggcg | ccgctcgaaa | gccgaattct | gcagatatcc | atcacactgg | cggccgctcg | 360 |
| agcatgcatc | tagaggggcc | aattcgccct | atagtgcgtc | gtattacaat | tcactggccg | 420 |
| tcgtttttaca | acgtcgtgac | tgggaaaacc | ctggcgcttac | ccaacttaat | cgccttgcag | 480 |
| cacatccccc | tttcgcgcagc | tggcgtaata | gcgaagaggc | ccgcaccgat | cgccttcccc | 540 |
| aacagttgcg | cagcctgaat | ggcgaatgga | cgcgcctgt | agcggcgcat | taagcggggc | 600 |
| gggtgtggtg | gttacgcgca | gcgtgaccgc | tacacttgcc | aagcgccta | gccgccgnt | 660 |
| cctttcgctt | tcttcccttc | ctttctcgcc | acgttcgcgc | gnttttcccc | tnaagctntt | 720 |
| at | | | | | | 722 |

<210> 177

<211> 820

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 177

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| tcggctcctcc | ggagtccttg | gaacaagcaa | ctggctattg | aaaaggttat | tttgtaacat | 60 |
| tttgtctaac | tttttacttg | ttttaagctt | tgccctcagg | ggcaaaatca | ttttatgtgc | 120 |
| cattttgttg | ctgttattca | aatttccttg | aatttagtga | ggtgaacgac | ttcagatttc | 180 |
| attattggct | tggatatttg | aggtaaaatt | tcctttttgt | tcataatagt | ctgacttttt | 240 |
| ttgtttgaaa | ttaaacagat | tggtaaccta | atttgtggcc | tcctgacttt | taaggaaaca | 300 |
| agtgtgcagc | cattacacac | agcctaaagc | tgtcaagaga | ttgactcaac | attgccttca | 360 |
| taccttaaaa | ttaaaaacct | acaaaagttg | gtgtaaaatt | gtttgtatat | gttatttacc | 420 |
| ttcaggtcta | aatggtaaac | tgaacccaaa | tttgtataaa | gacttttcag | gtgaaaagac | 480 |
| ttgatttttt | tgaaggattt | gtttaccaa | cacaattcta | atctcttctc | ttatgtattt | 540 |
| ttgtgcacta | ggcgcanttg | tgtagcagtt | gagtaatgct | ggttaagctg | gtaangtggc | 600 |
| cttgttgcan | tgcaaaantgc | ttggctgggt | nctgggttct | cctgatgctc | ctgngtaaaa | 660 |
| naagccttgt | cgtgccaaaa | acaaaagggt | ggccagttta | attaaantgc | ctgacaactg | 720 |
| nactttccan | caaaccgggc | cttgcatata | aataccggac | cntccannng | gccnctnttn | 780 |
| ccgaggatna | aatnccccct | tttttttctc | cctccccccc | | | 820 |

<210> 178

<211> 812

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 178

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-----|
| gatgcacgga | acggactgct | ccttagaact | ctggagggcc | cagcaaaacc | attctctgca | 60 |
| tgaagggtgt | gaatgacctt | gtgttcagtg | gttctagtga | tcagtcagtc | cacgcccaca | 120 |
| acattcatac | tggtgagctt | gtcgggatct | ataaagggtca | caatcatgca | gtgactgcgg | 180 |
| tgaatatacct | aggaaaagtg | atggtgcagg | cttgccctgga | taaatttggt | cgtgtctatg | 240 |
| aattacagtc | ccatgatcga | ttgcaagttt | atggaggaca | caaagacatg | attatgtgta | 300 |
| tgaccatcca | taaaagtatg | atttatactg | gctgttatga | cggcagtatt | caggccgtga | 360 |
| ggctgaatct | gatgcagaat | taccgctgct | ggtggcatgg | ttgtgctctg | atatttgggt | 420 |
| ttatagacca | tttaaaacaa | cacttgctga | ctgaccatac | aaatccaaac | tttcagactc | 480 |
| tgaatgtcgc | ctggaagaac | tgtgatgctt | tttttactgc | taggaaagga | tccaaacagg | 540 |
| atgctgcagg | acacattgaa | cgggatgctg | aggatgacag | caaaattgat | tcatgaaagt | 600 |
| tttttgcctc | catgttggga | agtctttaat | tgaagtaatt | tcacattggc | cccttacata | 660 |
| ggccantgnc | ttcctttctc | agtgaagaa | gggaanaaaa | aagtgggtact | tagcangctt | 720 |
| accccctagc | ataatctnng | caactctatn | ggtgataggg | gtatactttn | aantcttgc | 780 |

ggaggttgnc aaattaacag gtttttaagg.at

812

<210> 179

<211> 730

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 179

| | | | | | | |
|-------------|------------|-------------|------------|------------|-------------|-----|
| ntatagggca | gcgtggtcgc | ggcccgagtt | actagttcct | aaaaaggtgg | aagctccacc | 60 |
| tgccaaagt | ccagaagtgc | ccaagaagcc | tgtgcctgag | aagaaggtgc | cagttcctgc | 120 |
| tcctaagaaa | gtagaggctc | cacctgcaaa | agtgccagag | gtgcccaaga | agaaaatccc | 180 |
| agaagaaaag | gagccaacac | ctgttccgag | aaaagtggaa | gctccaccac | ccaaagtgcc | 240 |
| caagaaacgt | gagccagttc | cagttccaat | tcctgtagct | ctactccggg | aagagaaagt | 300 |
| tacattttgag | gaagaaatag | ttcttgaaga | ggaagttcta | ccagaggaag | aggaagttct | 360 |
| ccctgaggaa | gaggaagccc | caccagagga | ggaggaagtt | gtacctgccc | ggcgcgccgc | 420 |
| tcgaaagccg | aattccagca | cactggcggc | cgttactagt | ggatccgagc | tcggtaccaa | 480 |
| gcttggcgta | atcatggtca | tagctgtttc | ctgtgtgaaa | ttgttatccg | ctcacaattc | 540 |
| ccacaacata | cgagccggaa | gcataaaaagt | gtaaaagcct | ggggtgccta | atgagtgagc | 600 |
| ttactttacat | taattgcgtt | gngctcactg | nccgctttca | ngtcggggaa | accttgctgt | 660 |
| gccacttgca | ttnatgaatc | ggccaacncc | ccgggganag | gcggtttngc | gttttgggccc | 720 |
| ccttttttcc | | | | | | 730 |

<210> 180

<211> 724

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 180

| | | | | | | |
|-------------|-------------|------------|------------|-------------|-------------|-----|
| ntnttttctt | nctttttttt | tttttttttt | tttgcccgag | gtgtgtttat | tttcattaat | 60 |
| catacaaaata | atttttctata | atatcccagg | gcaaaccgga | taatttggca | gtccgattgg | 120 |
| agggtccctt | cgganaccca | ggggccgatg | gcacccggac | anagcgcccg | ggttcacagt | 180 |
| gcagcttgct | gcttgngtcc | atnttgcagg | tggtntttcc | tccacatccc | gattaggggtc | 240 |
| tccaanatgt | tgggggtgga | naatcctccc | ggttcttagg | aaatttcaact | tggtctgctt | 300 |
| ctcctgctca | atgggtctctt | tggtgggcag | ggtgtttctt | tcctgcgtct | ccgtcttctt | 360 |
| cagcttggcc | ttgtcgaanc | tggtgatttc | gcccattgtc | ggcttgtctg | ccattttctt | 420 |
| ataacaatcc | gagaagttcc | gctgaaagcc | caaggtgctg | ctactngcac | tcgcctngct | 480 |
| gcancaagan | acccccgcgt | acctgcccgg | gcggccgttc | aaacccaatt | ncacanactg | 540 |
| gcggccgtnc | tantggatcc | caactcggnc | caaacttggn | gnaatcatgg | catanctggt | 600 |
| nctgnngnaa | aatgntatcc | nntnanattn | cncananta | cnanccggaa | ncntnaaann | 660 |
| gtnaaacctt | gggngcctt | aatnanngan | ctaactnaan | nttnantgnc | ntnncnctnn | 720 |
| ctnc | | | | | | 724 |

<210> 181

<211> 712

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 181
 tcactcacaa aaaaaagtga aacattagag cctttgttcc tatgccctcc atgatttgta 60
 actataatac ataatacatt tccacttgta taaattacac aagacacccat tatattcttc 120
 ttcagttatg tgatgcatat aaacgaatta gtaggaaaaa agcaaagaaa aattattcct 180
 ttgcatctac aattttttatc ttattcattc ttttgcgag acacagatat ccatctagca 240
 ctatttacc ctagcttgag gaactttctt tagcattttg aggtctgctg attatgatag 300
 tgttagtctt attgtggttg cctgatggga gggggaggga gtgggaggga tcgggagctt 360
 gggcttatca gtcacaacgt anaatagatt tacaaggaga tcccgtgaa gagcattgag 420
 aactatgtct agatctcatg ttgcaacaga agaaatggng ggggaaaaac tgtaattgga 480
 atgnatacat gtaaggataa cctgccccct tgctgncctg cccgggcggg ccgtcgaaag 540
 ccgaattcca gcacactggc ggccgtacta gnggatccga nctcgacca ncttggcgta 600
 atcatggnc tagctgnnc ctgngngaaa tngntatccg gtccaattnc cncnncntcc 660
 agcccggag cntaagngtn aancntggg gngcctaag antganctac cc 712

<210> 182

<211> 715

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 182
 tntttttttt tttttttttt ttttttttcc nctttacagc aaggggggtca ggttatcctt 60
 acatgtatac attacaatta cagtttttcc cccacccttt gttctgttgc aacatgagta 120
 tctanacata gttctcaatg ctattcagca ggatctcctt gtaaatctat tctaagttgn 180
 gtctgataaa cccaagctcc cgatccctcc cactccctcc cccctccatc aggcagccac 240
 aagtctnttn tccaagtcca tgattttctt ttctgaggan atgttcattt gtgctggata 300
 ttanattcca gttataagt atcatcatg gtatttgtct ttgtctttct ggctcatttc 360
 acccaggatg anattctcta gttccatcca tgttgctgca aatggcatga tgtcattctt 420
 ttttatggct gtagtagtatt ccattgngta tatataccac ttcttctgaa tccaatcatc 480
 tgtcgatgga catttgggtt gtttccatgt cctggctatt gngaatagtg ctgcaatgaa 540
 catgtgggtg cagctgtctc ttttaagtaa aagttttgnc cggatagatg cccaaaanta 600
 ggattgctgg gtcataatgga agtctatgta taanattcta angnatctcc aaactgggtc 660
 ccatanngcc tgnacctgcc cggcggggccg ttcaaagccg aattccanca cactg 715

<210> 183

<211> 567

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 183
 cctcaaaaaa aagtgaact tagagccttt gttcctatgc cctcctgatt tgtaactata 60
 atacataata catttccact tgtataaatt acacaagaca ccattatatt cttcttcagt 120
 tatgtgatgc atataaacga attagtagga aaaaagcaaa gaaaaattat tcctttgcat 180
 ctacaatttt aatctaattc attcttttgc gaanaccag atntccatnt agcactattt 240
 accctnagnt tgaggaactt tcttttagcat tttgaggtct gctgattatg atagggttag 300
 ncttatnggg gttgcctgat gggaggggga gggagtggga gggatcgga gcttgggctt 360
 atnagnncna acgtanaata natttacnng gganatcccg ntgaanagcn ttganaactn 420
 tgntananac tcangngtn ccnaaaaaa ngggggggga aaaaactgmn nttgngnangn 480
 aacntgtngg atanccgcc cnttggtgna cctgccnggg ggggncntta aaanccnaat 540
 ncnnactgg ggggngtnc tagggga 567

<210> 184
 <211> 763
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

```

<400> 184
ttganaagnc nttcaggnat atccttacat gtatacatta caattacatt gtttccccca    60
ncctttnttc tgntgcanca tgagnatcta gantaagnnt ctcnatgcta ttcancagga    120
cctggccttgn aaatctattc taactngtgt ctgataagcc caagctcccg ggccctccca    180
ctccctnccc cttncatcan gcagccacaa gnntcttctn canntncatg attttctttt    240
ctgaggagat gctcatttgn gctggatatt agatnncagt tataagtgat attcatatgc    300
tatnngcctt tanccttctg gctcatnnca ctcagtatga gattctctag ntccatccat    360
ggtgcttgcn aatggcatta ngtcattctt tttttatggc tgaccnenta ttccattggn    420
gtatatanac cacctctccg aatccagncc atntggnnat gnacattttg gntnnccctcc    480
atgtgcctgg nntntngtna atantcccca gttccttgcc cgggaggccc gttttaaagc    540
cnanttcag gccacttgcc nggcngttcc tantgggatc ccaaacctcn ggngccaaaa    600
ncttggggcg aaacnnntgg nccntaggt gaatcnngnn nngaatttng atttccgctc    660
cnaattccn nnccgcatta cntaaccggg aaanatnaaa ggngnaaccc ctggggggggg    720
cctantnga cgnacnttaa nncatttta nntcnngtnn gcc                          763
  
```

<210> 185
 <211> 804
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

```

<400> 185
atcanaaagt gtttctagaa ataacttaat agaagcttgg tcataaatga gaatagtcac    60
aacaacgatc tcctttacca aggcattcca cacagagaaa taacacaata aataaagaat    120
ctgccatttg tcacataaca aataaaaaag aattgcaaca acaaaaaacta caattttaca    180
agtgttctta tactaaaaat aaaaagcaaaa atatgagatc atgcactaga gacaaaagct    240
acaagtgaag agttatagca aaaaacattg caaaaaataa aaatgttcaa gtattgcaag    300
aggagagggg aagattgaaa tgaaacagtt tcaggataaa tcaattatat ttactactct    360
aggaggggaca ctgacataat tgnctttgcc attaatactt tatgctgta aaatacacac    420
tattatccat ttagaggaca gataccattt ccttggggca cctctcatat tacaaggatg    480
gaataaaatt cactgnntac cttgactata aataaatgat aatactttag gagaaatatt    540
cgcaaaagca ggccagtgtg atgccttgga atagtaagaa ccttgggtgtt aggaaactgg    600
gtctagtccct attattttat atcattggct gtgaaagata cttccccggg tcctgcccng    660
gcgggcggtc gaaagccgaa ttccanccac tggcgccgt actagtggat ccganctnng    720
accaacttgg nngaancatt gggatanctg gttcctgggn gaaaatggta tccnttncca    780
attcccaan nttccaaccg gaac                          804
  
```

<210> 186
 <211> 811
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 186
 tgnccgctca ccaagaggat aactctcata tccactgaga acacagataa ttctcagtaa 60
 ttggtaaaaa atgaagatga atggggctga gagataagga gcaattagct catcagcagt 120
 tacagctgtg cactcaatcc ggatccatct cttgagtctc ggcccccttt aaagaacct 180
 agcagaataa gcataggaca ccccccctcc aaaaattgct agacctgccc atcattttctc 240
 tcgtcttcca ctttattttcc tcaccataca aagacacctg tcatagcatg ctatgtaa 300
 taccacctct ctcaggacct atgtctaaag ccaatcttct ttttaaactt ttttttttat 360
 aacagaaaacc aaatgactac tgtagacact tttaaattcc ctgtcaaccg tttcattata 420
 gcagcatcat ctgtttgaaa atataagcaa ttccctcatc taattatagg aaggatttga 480
 gggttcattaa cattgccaag gcagagaatc cagtgtgcaa cttcagagct ttgcttggtg 540
 gcctgtgttc tcagtttccct tttattgctt tctcaaggct tccaagactt tttctgaaa 600
 tcataaaaatt aagtttttct tncaaataga cagctgagat agaagaaagg aaatgactac 660
 agtgtaaaact attttatttc tttgggaatt ggtaaagaaa aaaaagatta gaaggatgg 720
 cactggggaa agataatttt atctctctat cgtcaagggt cttttttttt ttttttttna 780
 atgggttgggt ttgtgggtan ggggncaaaa a 811

<210> 187

<211> 636

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 187
 tctcagtagt gaaaatttct accaagtata aaagagaaac tagtaaaaaa tctatttata 60
 aaccattttt agtttgagaa gagttatggc aattttaaact atgtaaacta tcttgaagg 120
 tattcaagta ataagtgcc actatttaga tatttttaaga ttttaagatg ctcagcattt 180
 ttactggcat gtttaataaa atgttctctt ttttaattgaa gaatgcattt ttaaaggcta 240
 ctagtagaat gactgaagg atattaagtt ttatggcatt ttaaaaaatg taatagccac 300
 atgtataatt ttacttaata tccataagtt taattttata tcttctatat atatttgagt 360
 cagcttttcaa cattgaaaaa aatttcaagt taaacaacaa aaatgtcagt gtatctaaaa 420
 aagacttatt gagaaagcaa gcnaaaaaaa aaaaaaaa aaaaagtcct gcccgccggc 480
 cgaagccgaa ttccagcaca ctggcggnccg ttactagtgg atccgagctc ggacnnagcn 540
 nggcccgtacc atgggcatan ctgggttctg ngtgaaagt gatcccgtca cnatttcnca 600
 ccacatngaa ccggaaacat taaagggtga aaacct 636

<210> 188

<211> 615

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 188
 aaaattaaat naggaccaat tagtgcaaaa atgcattaaa taaagctctc cagaatctaa 60
 ggatctgcct cattctgaac aatgaaatgg gggggaaata tcactatgat tcacactcac 120
 ttaaaagaga ggccgacaca gccattgaca gaaaaaaaag caaacattc tgttcaacag 180
 actgctggct tgccacaaga gaataccatg ctctgggaga ctaataacct aattatccca 240
 gacatttggg ttggcacgat accacgtttc ctttacaatt ctatncttca attnggaaat 300
 gtttaagggn accctccaaa gccnattngg gaaaagtnag acttttatac atacactcnc 360
 acaaacacac ccatacanag atacncgaat ggnttgnta ctaaatttcg cactctaant 420
 ttaaatccn tgcntcatg agggcncgt gttgttgatc aaagcggtaa agnggatatg 480
 ngtgactgag attctttcaa tttaaaatgt gcatgttggg gccnatacan nacctgtnc 540
 ggcggggctc taaaacccaa atttgnaaa ttccttcaat ggggggcnct ttacntgcnt 600
 tttaanggcc caatt 615

<210> 189
 <211> 512
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

| | | | | | | | |
|------------|------------|------------|------------|------------|------------|--|-----|
| <400> 189 | | | | | | | |
| gctataaaaa | tnaaatnaag | gaccaattag | tgcaaaaatg | cattaaataa | agctctccag | | 60 |
| aatctaagga | tctgcctcat | tctgaacaat | gaaatggggg | ggaaatatca | ctatgattca | | 120 |
| cactcactta | aaagagaggc | cgacacagcc | attgacagaa | aaaaaagcaa | accattctgt | | 180 |
| tcaacagact | gctggccttg | cacaagagaa | taccatgctc | tgggagacta | ataaccta | | 240 |
| tatcccagac | atttgggttg | gcacgatacc | acgtttcctt | tacaattcta | ttcttcaatt | | 300 |
| aggaaatggt | taagggaacc | ctccaaagcc | gattagggaa | aagtaagact | tttatacata | | 360 |
| cactcacaca | aacacaccca | tacagagata | caggaatgga | ttgtctacta | attttcgcac | | 420 |
| tctaatttta | aattccatgc | catcatgagg | gcctgctgnt | gttgatcaag | gcggtaaggg | | 480 |
| taataggtgt | gactgatatt | ctttcaatta | aa | | | | 512 |

<210> 190
 <211> 793
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

| | | | | | | | |
|-------------|------------|-------------|-------------|-------------|-------------|--|-----|
| <400> 190 | | | | | | | |
| tatgaacaca | tatctctgct | tcagttgaag | aaccagcca | aataaaaaga | ccaatattaa | | 60 |
| aagcagcatt | aactagttac | tgcccttaaag | atacataaaa | agaatcaaat | gctacagtgt | | 120 |
| gtaggacgat | catcaccccc | atgtcagaaa | acacaacctc | ttccaaataa | agaatatgac | | 180 |
| ccatctgccca | tattgaattg | atatttat | caggacatgc | catgtcaaaa | taaaacaaaa | | 240 |
| gagtcaaccc | tcgcctccaa | caataatatt | gtattataaa | agcactttac | aactccatcc | | 300 |
| cgtcttttagt | ataagttact | ggggtatgtg | ggctaattgat | tatctgaaag | catttcccta | | 360 |
| ttcagaccca | taatccaagt | gctctctgaa | cattacaagg | tgacagtaag | tgggaagtgg | | 420 |
| aggaggaaga | ggaaagagag | gggccgtaag | attcttccag | ttaaggggtgt | tgcaatgagg | | 480 |
| ggatgggaaa | gtatgaagat | attttggtgg | ncttttcac | tttatactgg | gttaagtaat | | 540 |
| gcttacaaca | taaatcgaca | gcttttcctg | actgtaactc | agaaatttct | tcctgcaaac | | 600 |
| aatggattta | caaagtgtgt | attaacttca | cagcattctn | aaattactag | tagtttaaaa | | 660 |
| tggngcactc | ttaagtatat | tggntgcagt | ggtttaaggg | aaanacntat | tggcattnng | | 720 |
| gntgacgctt | aaacnntcgg | ataaancatn | taaaattnga | aggntntaaa | aaaanggcant | | 780 |
| nnaantaatt | tnn | | | | | | 793 |

<210> 191
 <211> 718
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

| | | | | | | | |
|------------|------------|------------|-------------|------------|------------|--|-----|
| <400> 191 | | | | | | | |
| atTTTTTctt | TTTTTTTTTT | TNTTTTTGAA | AAACTGTAA | TTTATTGATT | CATTGAAATT | | 60 |
| TTTTTTTTTA | ACAATCCCCA | TTACATGCAG | TTCAAGGATTA | AGTATCACAT | TTGTAGCACA | | 120 |

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| ttgttgagtc | tccacacaaa | agtatgcatc | acctgtataa | ttccatcaca | tcaccttccc | 180 |
| cagcctntac | aatacctggt | tggggtcatt | ttcactgaca | catccataca | gtcccaaagc | 240 |
| atacgttatt | actggttttc | tcagccanat | gtttcctcgc | cattttaccat | cccctcatcc | 300 |
| ccaccctggg | gttagttttt | aaaggcaaga | tattactcag | ctatattaag | ctcacggaca | 360 |
| aactttggct | tcttgngtgc | tcatgtggac | cctgcttttg | ctttgggggt | tatacctcaa | 420 |
| tggccttgac | tgatcactta | ccatccactc | ctattaattt | gtaggaggga | agtttgcttt | 480 |
| ttttcctgng | agtgcctggc | aatacacacg | gttcctaaat | gaatcactaa | tctgaactgg | 540 |
| cattaaagaa | aactgtcacc | anggctnttt | canatacatt | tcaatgcnta | tacaaaaact | 600 |
| ttttccaatt | ggttgnggcc | caaaataatt | ttgcttccat | cctcattaaa | ancagcacc | 660 |
| cggganaanc | caaagtcatt | tncctgaata | ggcncaaact | gagtgaacc | cnccggtg | 718 |

<210> 192

<211> 724

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 192

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| nttgaggga | caagtagggg | ggcttcagtg | gtgatttccc | ccttttctat | cgatagaaat | 60 |
| ggccaaaatt | tctaaaaaag | gacaatggaa | gccaaaaagt | taagatatgt | gatcatatga | 120 |
| agctgggtaa | tgcaggaaaa | cattaatttc | aacggttcca | aaaaaaggat | tccaagccaa | 180 |
| agcttgcgta | aaccagattt | gacagtaaaa | atagcacttc | atgagaagag | ttagaaatgt | 240 |
| agttttcata | ggccatcagg | acaataaccc | gcgtaactgc | ccggggcgcc | gctcgaaagc | 300 |
| cgaattctgc | agatatccat | cacactggcg | gccgctcgag | catgcatcta | gagggcccaa | 360 |
| ttcgccctat | agtgagtcgt | attacaattc | actggccgctc | gttttacaac | gtcgtgactg | 420 |
| ggaaaaccct | ggcgttaccc | aacttaatcg | ccttgacgca | catccccctt | tcgccagctg | 480 |
| gcgtaatagc | gaagaggccc | gcaccgatcg | ccttcccaac | agttgcgcag | cctgaatggc | 540 |
| gaatggacgc | gccctgtanc | ggcgcattaa | gcgcggggcg | gtgtgggtgg | tacccccagc | 600 |
| gtgaccgttc | acttgccagc | gccttacgcc | cgnttctttt | ggtttctttc | ccttnctttc | 660 |
| ttcgnacagt | tcgcccgggt | ttncgccgtna | agctnttaaa | tcgggggggt | tccttttang | 720 |
| ggnc | | | | | | 724 |

<210> 193

<211> 717

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 193

| | | | | | | |
|-------------|------------|------------|------------|-------------|-------------|-----|
| tacacctatt | ctaateccct | aatttatcaa | caacacaaaa | aagtgtotta | cttgagagta | 60 |
| agagtatgtg | tgaatgagtg | ggtgtatgcg | tgtgtgtatg | catgtgtgtg | tggaaataaa | 120 |
| cttataaatg | ggggaagtat | tggagaagga | aatacatgga | cttgcaacctt | ggagcaaata | 180 |
| gcagcaatgt | tttaggagct | gaaatttcag | atttaaaggc | ttcagcccca | tctacttccc | 240 |
| tgtttttgtg | gggagagaat | ggagttgatt | aaaactgctc | tgttattgtt | tttgggggag | 300 |
| gggaataactt | tctgttcagt | ctttcctagt | gaccaaactt | taagttttta | gagtaataata | 360 |
| ttgacttatt | aaatggaagc | attctgaatt | ggagggtctt | ccagaggaat | agagttctgt | 420 |
| gttgctcaca | tgttaaaagt | ttgctgcctt | ttggagccga | gggaaaacct | attttcagac | 480 |
| atccgtccat | tttcatctcg | tcattattat | caaacagtg | gacttgaaag | tggtgctttg | 540 |
| ttgtctgtgt | acctgcccgg | gcggccgctc | gaaccogaat | tctgcagata | tccatcacac | 600 |
| tggcgggcgg | ctcgancatg | catctagagg | gcccaattcg | ccctatagtg | agtcnnatta | 660 |
| caattcactg | gnccgtcggt | ttacaaccgt | cnnagctggg | gaaaaaccct | ggcgcttn | 717 |

<210> 194

<211> 661
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 194
 acaaaantcnn atacctcgga atacacctga cnaaggagggt aaaggaccta tatgccgaga 60
 actataaaaac tttaaatcaaa gaaatctaag aaaatgtaaa gaaatggaaa gatattccat 120
 ggtcctggat tgggaaaatc aatattgtaa aaatggccat actacccaaa gcaatctaca 180
 gattcaatgc aatccctatc aaattaccca tgacattttt cacagaacta gaacaaacaa 240
 tccaaacatt tatatggaac cacaagaagac tcagaatcgc caaagcaatc ctgagaaaca 300
 aaaaccaagc aggaggcatc actctcccag acttcaagaa atactacaaa gccacagtca 360
 tcaaaacagt gtggtaactg cccggggcggc cgctcgaaag ccgaattctg cagatatcca 420
 tcacactggc ggccgctcga gcatgcatct agagggccca attcgcccta tagtgagtcg 480
 tattacaatt cactggccgt cgttttacaa cgtcgtgact gggaaaaccc tggcgttacc 540
 caactttaat cgcttgcag cacatcccc tttcgccagc tggcgtnata gccgaagaag 600
 cccgcaccga tcggcctttc caacaagttg cgcagctgaa tggcgaatgg acgccccctg 660
 t 661

<210> 195
 <211> 715
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 195
 tnttttncct tгнаatttgc ctgaagaatt ttaaatttta ttagtcaat tttgtcaatt 60
 gggtttttct atggcttctt cactttgtat catgggttaga aaagacttcc ttacttcang 120
 gttgtagaan aagcttctgn tctcttctag tccttttact gccttatttt cacacataaa 180
 tctttgatcc atttagaatt tatcctgatg taaagtgtgg gtctaacatt ttctccagggt 240
 ggctatccag ttgtttacaac acagtttttt gagtaatcta tctttccctg accaatttca 300
 gataatacce ttttcatata ctaaaatttc atatgtattt gatttatttc ttggcttctt 360
 gttctgttcc tctgagtttg ttttgntata tatgtgtcag tttttcta at tggcctttga 420
 tttaattgaa cattagtatg attttgtttg cttttgttca gtgaataaca tgaataataa 480
 acattttgca cttggaggca tattttgatt ctcaagggtan ggtgtgaata aagtcagagg 540
 acagaactgc ccatgcctac ccttgctttg ctcantgnct agtctggttt catccttcan 600
 gccagtattt cttaagngtg ttggaaaaat gcttaaaacc atttattagc tntgtaggcc 660
 ccccanaaaa tancctgnac ctgccccggg cgggccgttc naaaacccaa ttcct 715

<210> 196
 <211> 812
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 196
 ttgattgccc nctctaaagc atgctcgagc ggccgccagt gtgatggata tctgcagaat 60
 tcggctttcg agcggccgcc cgggcagtta cgcggtatg gaggagtcc atttattctt 120
 tccttgagca aatatttttag aaaattgtca tgcaagatga aaagataggg aagaagagtc 180

| | | | | | | |
|-------------|------------|-------------|------------|-------------|------------|-----|
| aacattgtca | agatgtcagt | tcttcccaac | ttgatctata | gattcaagac | aatcccaatc | 240 |
| aaaatcccag | caagttgttt | tatgttatgt | tgtggactga | caagctaatt | ctgaagttaa | 300 |
| tatggagaag | caaaagacct | atattagcca | acacgatatt | gaaggagaaa | aataaagtca | 360 |
| gacaactaac | actatccaac | tttaagacct | actatatagc | aatagtaatc | aaataactgt | 420 |
| gatagtggct | aaaaaaaaan | ancttttnaa | annaaaagtc | cttggccgng | accacgctaa | 480 |
| gccgaattcc | agcacactng | cnggncgttt | ctaagggatc | cgaentcggg | ccnaagcttn | 540 |
| ggngaannat | tggncatanc | tgnttcctgt | ggngaaantg | gtnatccggg | canaattccc | 600 |
| ccacancatn | caanncngaa | accttttnang | ngtnancccn | gggggcctaa | tggnggggnc | 660 |
| ttnccttncat | ttanatgngg | tgnnccntan | anngcccngt | ttcnnagcng | gggaaaccct | 720 |
| ttngggccan | nanganntta | ttggaaatng | ggnaaaccce | caggggaanng | cntntttntt | 780 |
| tatttggggc | cngtntntnc | ntgttnnggn | cc | | | 812 |

<210> 197

<211> 782

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 197

| | | | | | | |
|------------|------------|------------|-------------|-------------|-------------|-----|
| aggacatgat | acctatctca | cgggttcttg | tgaagatttg | aacaagtgtg | ttagggtataa | 60 |
| attaagcttt | caataggnga | caattattat | ttatnnggtat | tttttatata | taacaacagt | 120 |
| atctactgtt | aanatcctgg | agccagccac | ataacacttg | aaactcatgt | tatanaaaac | 180 |
| agaaaaagaa | agggaaaacc | tanctgtagc | ctaatttcgt | atgatgtcat | ctactgactt | 240 |
| nttcgtcacc | gtaggatgga | ntgggggnc | tgatatatat | atattttttt | tcttgacttt | 300 |
| tgntttttta | gggccgcacc | cagggcatat | ggagggtccc | aggctagggg | ttgaatcaaa | 360 |
| nctgttgctg | ccagcctaca | ccacagccac | agcaacatca | gatccgagcc | tcatntgtga | 420 |
| cctacaccac | agcccacagc | aacaccggat | ccttaaccca | ctgagaaagg | ccagggatcc | 480 |
| ccgcgtactt | gcccggncgg | ccgttnaaaa | gccnatttcc | anccaantgn | ggggccgtnc | 540 |
| nangggntcc | aacntgggnc | caacttgggg | tnannanggc | aaactgggtc | cctnggnaaa | 600 |
| ntngttccct | tnnaattccc | cnnanntcna | acccggaanc | tttaagnnnn | aaacctnggg | 660 |
| gggctnaatg | ngggggccta | ctnannttta | ntggggtggc | ctaattngccc | nttttcaagt | 720 |
| nggaaaactt | ntcgtgcccc | nttgttttat | gnaatnngca | aaccccgga | naaggnggtt | 780 |
| tc | | | | | | 782 |

<210> 198

<211> 721

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 198

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| ccatactgta | tacttgaact | ttgctaagat | aaattaaatc | tcaacatata | cacagtggta | 60 |
| attgtgtaga | gatgatggac | aagttattag | cttgattatg | gatcttttca | caatgtatga | 120 |
| atatatcaag | tagaatgcat | tgaatctata | caatttttat | atgtcaaagg | tatctaaata | 180 |
| aattttgtatt | ttaaaaaaga | atataatttg | agcgagaaat | aacatgatga | ttctagaatg | 240 |
| taatatagaa | aaaaaagaaa | aaacttaagt | aggaatgaga | agtaatttgg | gaaggatacc | 300 |
| taagagtctt | actcaacaca | cacataggat | ttgatgaatc | tcaggaaaca | ggttgaggaa | 360 |
| aacaaaagcaa | attgctaata | ctacagggg | atattactag | ttttgaagga | ctcaaaaaca | 420 |
| tcataactaa | ataatatacc | atthaggtat | atacatctat | aataaaaatac | tttttttaaa | 480 |
| aaggggaacg | ataggagtgc | ctgttgtggg | gcagtagaaa | caaactctgac | caggaagcat | 540 |
| gaggttgtgg | gttcgatccc | tggcctcgct | cagtggtgtg | gggatctggc | attgccatga | 600 |
| gctatagggt | gctgtaagtt | gcagaccgtg | gctcggatct | gggtgttgct | gtggctctgg | 660 |
| cntgggcttg | gccggttaca | gccctagcct | gggaacctca | tatgccacaa | gtgccagncc | 720 |

g

721

<210> 199
 <211> 789
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 199
 ttccccagg atataactaa gaattgagtt gttgtttcca gatcatgcat tttgacttta 60
 ctagataatg ctgaacagtc ttccaaaata ttctaccaat ttatacttct gccagctata 120
 aaaaatatgc cttatatattc caaaccattg ccaaaatggt tgttggtatg ttgttatgaa 180
 cttctagata tcagctctta aatgtttttt aatcttattg gtttggaata ggataccatt 240
 atgttttagt ttgcatttcc catatgatta agagtgaac atcttttcac atgtttactg 300
 actatatgaa ttttccatta aaataataat ttttgacctt tcagtttcat attcataaca 360
 aatttttatt atgaaaagca ttggtaatgt tgctgaaaac atttaagagt ttaatattta 420
 ggaatattct ctggagttcc tgcctgtggt cagcagaaac gaatccaact aggaaccatg 480
 aggttggtgg ttctatccct ggcctctctc agtgggttaa ggatccggca ttgccgtgag 540
 ctgtggtgta ngtcacagac gccgcttgga tctggcggtg ctgnggctct ggngaagcca 600
 cactgtagct ctgaatagac ccctacctgg gacctcatat gctggagtgc anctaaaaa 660
 gaccnngacc naaaaaaaaa nnnnnnaaaa aggncccttt ttttnnnnnn nttttttggg 720
 gtnaaaaacc gntttaaaac cntnannaaa angggtttga nanggaaaaa tttgggnttt 780
 ttgcattc 789

<210> 200
 <211> 760
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 200
 ttctnagggc cactccccgg catatggagg ttcccaggct aggggtcaaa taggagctgt 60
 agcctccggc ctacgccana gccacagcaa cgtgggatca nagccgtgtn tgaaacctac 120
 accacagntc atggcaacgc canatcctna acccactgag caagggcagg gatcgaacct 180
 gaaacctcat ggttcctagt tggatttggt aaccactgca ccacgatggg aactccctca 240
 actactttct tattggctcc ttttttggtg ccttttgtaa ggcncctggt cttgctaatt 300
 accatgggtn tgaaagccaa aagtntntag tattatttta ttttgcaatt tatntaanca 360
 atgcaaaatt nttaacccc aatccgtaac ctctaaaaaa gaaaaccncc taaatgtttt 420
 tagagtcctt taatacaggg ggtaaagaac cataattcca taaatttaac ttccaaagaa 480
 aatttttaat taaaagtaat ttaagataga aaagatgctt tttgaggaaa tgataaagaa 540
 tatggnaaca tgttactata gtcttaattg tctgtaccct caaaattttt atgntgaatt 600
 cttaaaacac aatgtgatgg tacctgccgg gcgngcgnntn naaaccgaat tccagcacac 660
 tggngggcgt tctagtggat ccnancctgg naccaanctt ggcgtaataca tgggcataac 720
 tggttccctg gngaaattgt ntcccntcac aattcccnctn 760

<210> 201
 <211> 774
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis

Porcine

<400> 201

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| tgttttttta | gggacgcatc | tgtggcacat | ggaggttcct | aggccagggg | tctaatacga | 60 |
| gttggtgtcg | cttgccatg | ccagagccac | agcaacgcc | gatctgagca | gcatctgcga | 120 |
| cttacaccac | ggctnacagc | aatgccagag | cttaaccac | tgagcaaggc | cagggatcga | 180 |
| accgcgaacc | tcatggttcc | tggtcggatt | catttctgct | gagccacaac | aggaactcca | 240 |
| aaattttctt | tataaggggt | caattttaat | caatttcata | tccgtcatct | ataatcctaa | 300 |
| tttttagttgn | caattttcat | agagaattaa | actagaaaaat | tttacataaa | ttctcacagc | 360 |
| ctagggaaac | tgttattcca | aaaatagttt | taacaganag | ttcctttggg | gcacagcagg | 420 |
| ttaaggatct | ggcattgtca | ctgnaaagac | ttgggttatg | gctgtggcac | aaagtttgat | 480 |
| ccctggcctg | aaaacttccc | atgacacngg | agcgggtcaaa | aaaaacccca | aaaaacagca | 540 |
| gtagcagata | acgacagcaa | aacaaagtgt | catgaaaaat | gttgccaggg | ttcannggga | 600 |
| attctaattct | tttncacttt | caatcaaact | tttcccagca | ctggcattca | ttaagctgat | 660 |
| nagatcttga | cttcgctttt | cccagaatac | aagcccttgg | gttncatttt | acctttttac | 720 |
| ctnagcaaaa | cttatgacca | accnttattt | tcattccagcc | ctnggggttn | catn | 774 |

<210> 202

<211> 778

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 202

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gggctgctcc | tgccggcatat | ggaggttccc | aggetagggg | tcgaaccgga | gctgtagcca | 60 |
| ccagcctaca | ccanagcctn | agcaacttcg | ggatctgagc | cgtgtctgtg | acctacacca | 120 |
| cagctcacgg | naacgcggga | tccttaaccc | actgagtaag | gccagggatc | gaacctgcaa | 180 |
| ccttggggnt | cctagtcan | ttcgttaacc | actgnaccat | gacgggaact | ccctatgcag | 240 |
| ataactttan | agtccccctc | ccttgcaatt | ctgggcctct | ctgtgtocca | aactnattca | 300 |
| aacnaatgga | aatgttcata | atgggttcct | ccatctnaag | tgacagatta | aagggatgat | 360 |
| ggaggatgga | antggtttgt | cctgggtcac | gtacctgccc | ggcgggccgc | tcgagaattn | 420 |
| tgagatatc | catcacactg | gcggccgctn | nagcntncca | tntanagggc | ccaattcgcc | 480 |
| ctatagttag | gtcgtnttnc | aatttactgg | ccgncgtttt | acaaacgtcg | nactgggaaa | 540 |
| accctnngcg | gtcccaactt | aattcgctt | gnannaaaat | tccccttng | ncanctnggt | 600 |
| gtaatngccg | aaaaaggccn | ncaccgatcg | gnctttccca | anagtnnggc | aacctnaaaa | 660 |
| tggnaatng | acccccctg | tatcgggcat | tnagccccgg | gggttntggn | gggttaccnn | 720 |
| nancgnngac | ccgttanatt | tggcagggcc | ntanggcccg | ntcttttggt | ttttcccc | 778 |

<210> 203

<211> 717

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 203

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| nttncggctt | gttcttgcaa | taccggtaac | accgggcggg | gcggcgggcc | atggcgacac | 60 |
| caagatcttc | agtggcgcg | cgaaggaaaa | gagccccgg | tacttttttt | tttttttttt | 120 |
| ttttttnggt | ctttttatgg | ccacaccat | ggcatatgga | agtccccagg | ctaagggtag | 180 |
| aatcagagct | gtagtgcgtg | ggctacgcca | gagcaacagc | aacgccagat | ccaagctgca | 240 |
| tctgcaacct | ataccacagc | tcatggcaac | ttggatcctt | ccactgcacg | cccgctgacc | 300 |
| tgccccggcg | gccgctcgaa | agccgaattc | tgcatatc | catcacactg | gcggccgctc | 360 |
| gagcatgcat | ntagagggcc | caattcgccc | tatagtggat | cgtattacaa | ttcactggcc | 420 |
| gtcgttttac | aacgtcgtga | ctgggaaaaac | cctggcggtta | cccaacttaa | tcgccttgca | 480 |

81/122

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| agcacatccc | cctttcgcca | gctggcgtaa | tagcgaanag | gcccgcaccg | atcgcccttc | 540 |
| caacagttgc | gcagcctgaa | tggcgaatgg | acgccccctg | tagcggcgca | ttaagcgcg | 600 |
| cgggtgtggt | ggttacncgc | ancgtgaccg | ttcacttgcc | agcgccctac | gcccgnctct | 660 |
| ttcgctttct | tccttctttn | ttgccacggt | cgncggnttt | tccccgtaaa | gcttttaa | 717 |

<210> 204

<211> 719

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 204

| | | | | | | |
|--------------|-------------|-------------|------------|-------------|------------|-----|
| tcnccggggga | ttttctctca | aaatgatgct | gtaataactt | atthttgttat | ctacacaaaa | 60 |
| caaatacacaca | tgcttgtgaa | cttttaaaac | taaaaattct | cttccactga | tttccaattc | 120 |
| aatgaaaaata | attacttctg | agattattta | taattcactt | taatttagaa | tccatattaa | 180 |
| gaatcacaaac | cagagttccc | atcatggcac | agtgggtaac | gaatccaact | aagaaccatg | 240 |
| aggttcgagg | ttcgatccct | gaccttgctc | agtgggttaa | ggatccagca | ttgccgtgag | 300 |
| ctgtggtgta | ggttgcagac | tcagctcgga | tcctgtgctg | ctgtggctct | ggcgtagggc | 360 |
| cgtgggtaca | gctccaattg | gacccctagc | ctgggaacct | ccatatgctg | caggagcagc | 420 |
| ccgagaaatg | gcaaaaaaaaa | aaaaaaaaaa | aaaaaaagta | cctgcccggg | cggccgctcg | 480 |
| aaagccgaat | tctgcagata | tccatcacac | tggcggccgc | tcgagcatgc | atctagaggg | 540 |
| cccaattcgc | cctatagtga | gtcgtattac | aatcactggg | ccgtcgthtt | acaacgtcgt | 600 |
| gactgggaaa | accctggcgt | tacccaactt | aatcgccctg | cagcacatnc | ccctttcgcc | 660 |
| agctggcgta | atagcgaana | agccccgaccg | atcggccctc | caacagttgc | gcancctga | 719 |

<210> 205

<211> 784

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 205

| | | | | | | |
|------------|-------------|------------|-------------|-------------|-------------|-----|
| catgatccat | cagatgactt | gagtctgaaa | atgccttggtg | cttggagaag | tgagcaggtg | 60 |
| gttaagaaga | tgagagagag | agagaagggg | tggagaccca | gatggaaaat | caggtataag | 120 |
| aaagagcata | tggactagga | gttcccttca | tggctcagtg | gaaatgaatc | tgactagcat | 180 |
| ccatgaggat | gcagggttaga | tccttggtct | tgctcagtg | gttaagaatc | tggcattgct | 240 |
| gtgagctgtg | ggattggttg | cagatgcagc | ttggatctgg | agttactgtg | gctgtggtgt | 300 |
| aggctggcag | ctatagctct | gattcgaccc | ctagcctggg | aacctccata | tgctgagtg | 360 |
| ggccctaaaa | aaaaaaaaaa | aaaaaaaaaa | aaaaagtacc | tgcccggggc | gccgctcgaa | 420 |
| agccgaattc | tcagatatc | catcacactg | gcggccgntc | gagcatgcac | ctagagggcc | 480 |
| caattcgccc | tatagttagt | cgtattacaa | ttcactggcc | cgtcgthttt | caacgtcgtg | 540 |
| actgggaaaa | ccctggcggt | cccacttaat | cgcttgacac | acatccccct | tcgccagctg | 600 |
| gcgtaatanc | naaaaggccc | gcaccgatcg | cccttccaac | attgcnaccc | tgaattggcna | 660 |
| atggcccccc | ctgtaacggg | ncatttaacc | ncggcggggtg | tggnggggttc | ccccacgtg | 720 |
| ncgttcnntt | tgccagngcc | ctacgcccgn | tcctttngnt | ttnttncctt | cctttttgcc | 780 |
| acgc | | | | | | 784 |

<210> 206

<211> 730

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 206
tntttcngta ggccannaat ccaactgaaa tggcttgggt cactgtggag ttgcagcttc 60
aatctccagc ctggcacagt aggtgaaagg atttgtcgcg agttccaatt gtggctcaat 120
ctccagcctg gcacagtggg tgaaaggatt tgttgggagt tccaattgtg gctcagtggt 180
ggtaacaaac ccgattagta tccatgagga cgcaggtttg atccctggcc ttgctcagtg 240
ggttaagatc cagcgggtgct gtgagctgtg gtataggtat cagatgcagc tcagatcctg 300
cattgctgtg gctgtggtat aggtctggcag ctgagctctg attcagcccc taacctgggg 360
acacccatat gccatgagtg tggccctaaa aagacaaaaa aaaaaggatc tgacattgcc 420
atggctgtgg catangtcac agctgtgcct ccgattcaat ccttagcctg ggaacttcca 480
tatgccgagg gtgtggccaa aaaaaaaaaa tnttntnnna anaaaaaaaa gtacctgccc 540
gggcggccgc ttcgaaaagg gaattccaca cacttggcgg ccgtactagt ggatccganc 600
ttcgggtcca agcnttggcn ntaatcatng gncatanctg nntccctgtg tgaaattggt 660
atccgntnac aatttccnca caanntacta agccggaagc ttaaannngn naacctggg 720
gggncntaan 730

<210> 207

<211> 726

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 207
tttgaancc tttggaaant ccttttttn ggcttttttc tagggccact tcccgcagca 60
tatggaggtt cccaggctag gggttgaatn ggagctgtag ccaccggcct acaccanagc 120
cannгнаacc tacaccacag ctnacggnaa cnetgggtcc ttaacctact gagcgaggcc 180
agggatcgaa cccacaacct catggttcct antcggattc attaaactact gngccacaac 240
gtgaactcct gcacattcat atttagaatg aagacaaaaa tggaaacaaa taccaagata 300
agaaaatttg ngaaatcatg ttgtttagan atagtttaac agttccagat ctagaagtcc 360
aaaatnaagg ancggcaggg ctatgntctc tctctgaagg acctcgggag gaatctgctc 420
catgcctttc ccttaacttt tggatattgc ttgcaacct tgggtgtgct ggctttgtag 480
caagatagct ctantctctg cctctgnctt ncgtggctgt cttccttaag gtgtgtgtat 540
ctgggtctgc tncgcacatn cccaacatt tttaccagtt aagtgtacct gcccgggcgg 600
ccgntttnaa acccnaattt tgnagatntn catcacactg ggnggncgtt ngaacttgca 660
tttannaggg cccaattcgc ctattgngan gttcgantta cnaattntt ggccgtgggt 720
ttannn 726

<210> 208

<211> 804

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 208
tcaattattt gtctgattgg ttttaettac gtgttcaggc ttatctttaa gaagttgttt 60
tatcttgttt actgctgaag gtgtctgaaa aaagaaaatg ttttcattta caaacttcgc 120
attcttccta gtctttaagg ctgttcaaac ctatttttag ttagttcatg tgatgaattt 180
atgttccatt cttgcccggg tacctgcccg ggcggccgct cgaaagccga attccagcac 240
actggcggcc gttactagtg gatccgagct cggtagcaag cttggcgtaa tcatgggtcat 300
agctgtttcc tgtgtgaaat tgttatccgc tcacaattcc acacaacata cgagccggaa 360

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gcataaagtg | taaagcctgg | ggtgccta | gagtgagcta | actcacatta | attgcgttgc | 420 |
| gctcactgcc | cgctttccag | tcgggaaacc | tgctcgtgcc | gctgcattaa | tgaatcggcc | 480 |
| aacgcgcggg | gagaggcggg | ttgcgtattg | ggcgctcttc | cgcttinctg | ctcactgact | 540 |
| cnctgcgctc | ggctcgttcg | ctgnggcgaa | cggtatcagc | tcactcaaan | gcggnaatac | 600 |
| cggtattcac | agaatcaggg | gataacgcag | gaaagaacat | gtgagccaaa | aggcnnccaa | 660 |
| anggcnnгаа | ccgtaaaaag | gccncgttct | tggcgttttt | catagggtcn | gccccctgac | 720 |
| agcntacaaa | aatngacctc | aatcaaaggg | gngaaanccg | ncggactnta | anatccaggc | 780 |
| gtttccctgg | aactcctntg | gccc | | | | 804 |

<210> 209

<211> 793

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 209

| | | | | | | |
|-------------|------------|-------------|-------------|-------------|-------------|-----|
| cccgcagtaa | gctttcaatt | agaataatcc | ctaatttcag | gttcaagttc | catgtatatn | 60 |
| cttaaaatga | aaacacaagc | cttaaaacttn | tagtcagaca | cagatctgag | tgttaccagc | 120 |
| actttctact | ctccattctt | tgagcttttag | gttttatgaa | aacagttcct | gctttttgaa | 180 |
| gcaatcntta | ataaaatcac | ctaattttct | attcaaaaagt | aaancaaaac | aaancaaaaa | 240 |
| aaccncgcag | caacaacaac | aacaacgagg | tccttggtacc | tgcccgggcg | gccgttcgaa | 300 |
| agccgaattc | cacacactgg | cggccgttct | aggggggatcc | gaactnggtc | caaagcttgg | 360 |
| cgtaatcatg | ggcatagctt | gnttcctgng | gngaaattgg | tatcccgnntn | naatttcccc | 420 |
| caacatncga | acccgaaacn | ttaagggtaa | anccttgggg | ggcctaaatg | agngaacctta | 480 |
| cttencanta | attggcgntg | ngntnactgg | ccntttttca | atctggaaaa | cctgtcgtgc | 540 |
| cnacttngct | taatgaatnc | ggnccacccc | cggggaaaag | ccgnttngct | atttggggccc | 600 |
| ttttcccttt | ctnggttant | tgaatncatt | ggnctcgggc | gttnggtttg | ngnaaacggg | 660 |
| tttanttanc | ntaaaggngg | nntancggtt | tttccnaaaa | ttcgggggna | accccggaag | 720 |
| naaatttttna | ccanaaaggc | ccccaaaagg | gcccgggnacc | cntaaaaang | gccctttntt | 780 |
| ngngtttttt | cnm | | | | | 793 |

<210> 210

<211> 721

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 210

| | | | | | | |
|------------|-------------|------------|-------------|------------|-------------|-----|
| tggcctccnt | gagtattatt | agatttgggg | atttttgtaa | ataaacaacg | gaaaagaacg | 60 |
| gcagaactag | gagaaaaata | caaataaatg | aagagtccac | tacagaaaga | gatgctacaa | 120 |
| taacaaatga | atagccaaag | aaggccaaag | attcdataaat | actagctttc | tcaagtaata | 180 |
| aatgagtgct | tgtaaggcac | tggagttact | actctagcaa | tacagttttg | ctacagaagg | 240 |
| ggataatgat | cccaagtata | tcacacacaa | agagtttcta | agataactct | cccgcgtacc | 300 |
| tgcccgggcg | cgcgctcgaa | agccgaattc | cagcacactg | gcggccgtta | ctagtggtatc | 360 |
| cgagctcggt | accaagcttg | gcgtaatcat | ggtcatagct | gtttcctgtg | tgaaattgtt | 420 |
| atccgctcac | aattccacac | aacatacgag | ccggaagcat | aaagtgtaaa | gcctgggggtg | 480 |
| cctaatagag | gagctaaactc | acattaattg | cgttgcgctc | actgcccgtc | ttccagtcgg | 540 |
| gaaacctgtc | gtgccagctg | cattaatgaa | tcggccaacg | cgcggggaga | ggcggtttgc | 600 |
| gtatttggcg | ctcttcgctc | tctcgctcac | tgactcgctg | cgctcggcgt | tcgggcttgc | 660 |
| ggcgaaccgg | tatcagctca | ctcaaaaggc | ggtaataccg | ggtatcccca | gaatcanggg | 720 |
| g | | | | | | 721 |

<210> 211

<211> 785
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 211
 gggcctctct aatatgttca cctgggtctaa accnaaaaat aaaataaagt aataagtttt 60
 ttgntttctt aaaagaaaca gcatcccttc actgtcttct ttctctcttt acctctattc 120
 atgccctgtt atgcccacgg ggagcaaaaca actaatgtga taattagtta aaccnggaag 180
 atactactta aggaaaacaa ttccttttaa aaaggaagga aattcttccc taattctagc 240
 ataatacaag agtatactca aatgcntcta aaagtcagtc tatatgatnt ttgcatggnt 300
 ttggngatta atatttagca aaccantat tatcttgcaa gatgatcaac agcanggana 360
 tcaatcattc tacttgcat taatgtnaat agaaataatg anaactttca gccactatga 420
 ggtcctgccc gggcgggcgc tctaaagccg aattctgcng atatccatca cactgncggg 480
 cgctcnagca tgcacttana gggccaattc gccctatagt gagtcgtatt acaattcact 540
 ggccgcgttt tacaacgtcg tgactgggaa aacctgnng ttacccaact taatcgctt 600
 gcagcacatt cctttttcca gctggcgtaa tancnaaaaa gccccaccg atcgcncttt 660
 ccaaaaagtt gcgcaccctg aatggngaag ggaccnccc tgtacgggca tttaaacccg 720
 cgggtgtggn ggggtancccc acgngaccgn tcaactgnca nggcctangc cccntntttt 780
 ttttt 785

<210> 212
 <211> 807
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 212
 tcaatnaatg aatctacata tttgtacca tcattctctt cctacatgca tgagagttca 60
 aacctgaaca gcatgtttac agactttatc aattttatct tttcttttgc attttttttc 120
 cctttcaaat gtcccagcct ctaatcaaat ctgagatcct gttgataagc tcagctaata 180
 gtcccatatt ggtcattctc tctttgccta agcccatgac tagtatttta caaataatcc 240
 acagaaaaat gaccaagaat ttgagtcata ggtatccaac atccatcagt ctttatggaa 300
 tgtgtctaaa tggaccatag acagaccctc aaagacagga cagatgccac atagaagcca 360
 tttgggggaa gatgaacaat gcagggtgaag aggctggag agtgttcatt tccaccatnc 420
 tccaacactc cctgagttcc tttttcatgt atagatcang nttcgtgnaa gttttcaaag 480
 gaagtaaaat gntcattaaa caaaaaccaa aaactattac tttctacggg ctactaaatt 540
 ggggggtgan aaagcncaag gggattattc ccatnaagat gtacttttaa taagnacccc 600
 aggnccattg caggcaatgg cncntgact ntcncttgc ctttggcat tggcaaggng 660
 catatttana nagggatgan nagaaaacna cngggtaaag ccnatcannt tttgaancan 720
 cntnaaanct tcnaacnatg ggnatnttn anaaagacag nnttcnngc ntatnccttt 780
 tatgggcttn aanatnccgg nnttng 807

<210> 213
 <211> 522
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 213
 ccgtgaggat agaacaaggg gtcacatctt gcctgccttc tgtatccctc tcctctttat 60
 caagataatt aaaaactcct aattcctttt tgtaggttta ggcccaacttc aataccagaa 120
 aaattttatc tgaagcacia gaaatcaacc agctcttata ccacagtctc agcataatct 180
 cttctaagtt tcatgcacag gcctgagatt gtgttttcaa tcatcctttt tccccctt 240
 ttttccaaat acttttcttg tatgccctct atgacacaag gctaactctt gacttttctg 300
 ctctctctgt aaaccagaat cttgcttctg caactttatc caatgactgt aacttttctt 360
 ttttagatgg accacactaa ttccacctac ctgtttggac ttgagggtat tgtttgctgt 420
 ggatcccttc tggttttgnc ctgcccgggc ggnccgtcga aagccgaatt ctgcanatat 480
 ccatcacact ggcggcgctc gagcatgcat ntagagggcc ca 522

<210> 214

<211> 849

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 214
 tccgtanaat acccttttggg aaaatacccg cnaaggggca aagagagttc tgttcgtgaa 60
 acttttaaaga aaactcacgc ctggaaaata atcacaaata tnaggcaagc agaaaagaca 120
 atgcgaaaat caaggaaaat ctaagaagta aacaagaagg aaaaaatata aacaaagcaa 180
 attctgtccc aaagtccaaa ggaagcgggg agtggtccct attttctatg agctgcatca 240
 acaggttggtg ttccaccgtc tctccttccc ccaaacacac ttatatctct gcccccaaac 300
 tcattcacat atagagccgt ccaaagtttg gacttttaac ctactttttt tttttttttc 360
 ctttcatgct tacagttttt gcttcttttc ctttgctttt tacttttagcc aaaaacatct 420
 gttccaccac tgcctttttc tgtcagggat ggactcccac aggctagaaa ttgatctaag 480
 gcttccanac tccctgtctc agctaaatct tccaaacatt cttttctccc aggtgatttt 540
 tttttttttt aatttctgac tcttctgtgc tgatccttca atggatctta ctcccgaatc 600
 ccagaagatg tttacaaggc tttaacaggt atatgtmann ntattaggng gaagctngtt 660
 tttggnnttn taaanantn aacagaantn taactnggta cctnngcccc gggnggccgg 720
 tttnaaagtc cnaantnccn ncacacttgc ngncgnttt taggggnatc ccnacttng 780
 tcncnmatct ttggggtnnt nnnnngtcan tancngtcc tcngngngna tnntgnnttn 840
 cnntncaan 849

<210> 215

<211> 816

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 215
 gnataaaaanc ctgttcttag cctaattgagg tggggagaag ggcattgggac ctgggtgtgg 60
 aatgaaaaag ccagaccatg gggatgaatt gcggaactac caaaagaatc agggctagaa 120
 tttattatga aagaagatgg cagggatgga acagccctgg aaaagcaaag tagattttgt 180
 tctatgctat cattttatct tattaaaaag ggtgcagcag ttcagtccat gggcttactg 240
 gtttgaagaa gtatatggct catgttattt ctctgccttc cattgtcagc tgaatctaaa 300
 tcagccaaga atggattttg gcataatggat ccctaaccac cataaggccc aggaactcac 360
 tctttacatg aaagttgttg ttaaccctgt attgatataa tcttttttat gagatggtaa 420
 tgactgtaag tgcaactctt tcttaacaaa gctgtcttca gtttaaaagt ttgcaaggaa 480
 gattatgggt gatgaggcaa gctattgtgt gaaactcagt tattttcaaa aatagaggga 540
 ttaacataga gaattaccaa tgttgtaaga aaagactaaa atttatgtcc atggaatgga 600
 tgaagaaaag gttaaaatgc ctataagttc atacagatat ttgaaagtna agaaagaaan 660
 ggggagatct tgatgangga aaagccaaag gcntgaatgg aggaaaattt acatgcnggc 720

tgggacaccg aaaagaaagg gacatggggac aagtaaccat tccaaccatg ggcccttngg 780
gcctttctgg natctcggnt caggcctact aacatn 816

<210> 216

<211> 795

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 216

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| nnnccgctgc | agttaagact | atttttacat | ttttttaatg | ggttggaaaa | aatcaaaagg | 60 |
| ataatgcttt | gtgatacctg | aaaactatat | gaaatttaaa | tttccctaata | ttaaaacctt | 120 |
| aaagttttat | tggaacacag | cctctcactt | atgtgctcat | acactgtcag | tgtctgcttt | 180 |
| tatacgtgtt | ggtagagttg | agtcattgca | acagagagca | tatgcagccc | tctcatcact | 240 |
| tcacactgct | gtgtgatgct | gctgtaaatt | gtaatgatgc | agttacaact | taacaatggt | 300 |
| tcaagtggca | tctgtatgga | caaagtgcaa | catttatttt | atntttatta | ccagtgcac | 360 |
| cttattatgt | caatacnat | aaatcangng | aaatttgact | cttaatgtna | catttgtgag | 420 |
| acacagtggg | gtgtggaata | ttttgggtgnc | aaaatagact | gnnttccant | ggatttatta | 480 |
| tgtaatgata | tcngagntgn | gcctaataag | aaattttatt | tatgacaaan | atgctacttc | 540 |
| acttccgcat | naanaaaat | gnaacttctt | gggatgaaaa | aatntgaatt | tggcctacct | 600 |
| nanactggcc | tgcccnnggg | ggcntttaaa | gccattcn | naacttgggg | ggcgtctnat | 660 |
| ggntccnct | cnggnccaac | tttggggaac | ntgggnnaan | tggtncnggg | gnaaagggnnt | 720 |
| cccnnaaat | ccccnaaat | ttnancccg | nccttaangg | gaaaccggg | ggcccatagg | 780 |
| gggnnncc | attn | | | | | 795 |

<210> 217

<211> 816

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 217

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| atgaatnccc | tttggnnntt | tttttttgca | gttacaagtt | gaaaaccagg | tataaacagt | 60 |
| attaggtaaa | gtgactgaga | aattttataag | agatactgta | gacaagtga | aacctcaaaa | 120 |
| tcttcaccaa | cattgatgga | tacctaattg | cttgaacaaa | ttgttaatct | aaaaaaagac | 180 |
| ttaaagcaca | aaagcttgag | ttgagtaaa | tctatctttc | tcaaaaagaga | aagttaaaaa | 240 |
| gatttctctg | ttattatgtg | gttaagaaaa | aaatttttaa | gctgaagaaa | acactagggtc | 300 |
| aaaaatacat | taaaaatggg | ctacttggtg | gaaggtaaga | gaaaagtgat | acctgggttat | 360 |
| agtaaattaa | cttctgaaaa | gagaaattgt | caagatattt | tgcatagttt | attctgngat | 420 |
| ctctatgtct | gaattttcag | taaattatac | tgtttggtga | tacttttgct | atgagcacat | 480 |
| tottataggg | gaagttcaaa | atggaaaatt | aggaagggaa | tcacatttgc | attttgagat | 540 |
| gataactctg | gttgagatag | agagtaaatg | gggataggct | aaaattttgc | aggtagggtg | 600 |
| ccaattagga | aagttgctct | anaacctaga | aaaagatgat | gnggacctga | attaggggaag | 660 |
| ggcatttttg | attngataaa | ccttgctttt | ccnaaaagng | gttcaaacag | aattcccnga | 720 |
| cttgtagtg | atgggtgaaa | tgaaattcnn | ggcttnaaan | ggggatttgt | tttaaaccag | 780 |
| gtttctggtt | taaggncct | tgggataaaa | gggccn | | | 816 |

<210> 218

<211> 780

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 218
accctgacca ttaacaagat gtatgatttc ctgccatttg gccagtgcct ccctttctct 60
gctcataattt agatatttgc ctttacagca ctcttaagt tgtgctctcc ccactcccag 120
catcacccca aaggagcaa gactggagca agaggggctg gagtgggtcac tggggccaga 180
tccangtggg tgcacactgg gatgatccca acacaccant cggccttcca gattacttcc 240
aatctgcccc agcaatggcc tcctccatcc tatactgatg tatgtagggc tgggtctgag 300
atgtctctgt cccacaact gtccactgtc tttggcagca ncagccttca ccatagtgtg 360
gagtgggtgt gtggaacaag aggggctgga tcagggtgtg gggccatttt aaaaaccagc 420
aagangtcca gngtatgtct cagtctggtt cctntgcttg nttagaagc atgcaancat 480
gtgcttgctc ttcataaata gtccaatttg ntacattccc ncacagtcca atgggtcntta 540
aaccnnccaa gangactgtt ttctngagnn ggcccctagg gctggaatgc ccnatanggn 600
tgtaaagctg ntnaatccct ttggagatga tcntgagccc aantaanttn ccttcccttn 660
tgnatccntc taaggatatng ggtcntttcc ttgaactntn nnttcccnat tggctnnctt 720
tngcngaaat ttattactgg cntggtcant ttactccttc naattntttt ggcncattnc 780

<210> 219

<211> 804

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 219
ttgataaaga acaatttagt aatatgcatg aagatacttg caatgatttg ttcgtttatc 60
caagagataa ctactgagaa gctaccctat gccacaaact gggaatactc gatgactaac 120
atacagatca agctaaaagc ttctcatggt ccaaggagggt ggggagcaaa atgacctatg 180
gatgcatttg agaagacggg gcaccaagag ctgaggagag atcaggagga ctgagcagaa 240
gagttaccat gtaagagaag ggcagacagg cagcactagg aatgacaagg agaatttgga 300
atccaagaca tctggattcc agcttcagct ccatcacctc ttagctactt gtcctttggc 360
aagttactaa aattctctca gctttaatcc tttcttctgt aatatctacc ttgttgagtt 420
tgaatttttt ttttggtatt tccccaatac aaattttttt ctaatatata gcatggagac 480
ccaattacac atacatgtat atattctttt tcaaaaatcc cattatcatg ctcccgcgta 540
cctgcccggc cggccgctcg aaagccgaat tctgcagata tccatcacac tgggcgggccc 600
ggtcgagcat gcatntanag ggcccaatc gccctatagt gaggtcgtat tacaattcac 660
tggnccnccg tttacaaccn tcgtgactgg gaaaaccctt ggcggttacc caacttaaat 720
cgcccttgag gacaatnccc cntttngncc aactgggggt aatagccnaa aaaggcccgn 780
cccgaanggc ccttttncaa aaag 804

<210> 220

<211> 767

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 220
cccttcacac gccaccaccc tgaagcaagt taacatcata tcttacctgg actcttactc 60
tagttttcta agnggtcttc ctagtctctg ggttctggcc ttgccccttc cactcttctc 120
aggctgcttt caacactact gacaccttga tcctattaaa acagaaaatta gatcatagca 180
ttcttctcca caaaaccttc taatttttac ctgtcacatt cagagaaatt attatacatc 240
atttactatt aagtggggag gggggggtcc tgtaaagcac ttaatactca ttgagtgttt 300

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| actgggtatc | agtctctgac | ctacatactt | tatatacatt | aactcattaa | ctcataagta | 360 |
| ttctaaggca | tgccctatta | ctatacccat | tttatagttg | aggaaactgc | catacagaga | 420 |
| ggttaaataa | ctccccaag | gacacacagc | tagtgagagg | tagaactgtg | aaagggtanaa | 480 |
| ctgngcttcc | actgcaggta | gtggggccatg | accgtctgna | ctttcaccac | cctgactagt | 540 |
| cagtaaggct | tcttcttgac | atacagggga | anatgctcaa | tagtatcccc | atcatntgga | 600 |
| gggaccattn | cnttacttaa | ccaactcttt | actaagtcac | ctgacattcc | cngaaattct | 660 |
| cacttagggc | taatacattc | atttattnaa | caaatactac | tgagtgnaat | acccttggat | 720 |
| tccngaaacc | canccagtga | aaaaccnaaa | atggggcccaa | acttttnn | | 767 |

<210> 221

<211> 781

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 221

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| ncttggggac | tggtattttt | ctcttttgga | ttctctgagc | ctcctaggtt | tgtgggttgg | 60 |
| atctgtcatt | atttattact | atttttttta | tgactgcacc | cactgcaaat | ggaagttccc | 120 |
| cggctagtc | ttgaatccta | gctgcacg | atagttatgc | cacagttgag | gcagaaccag | 180 |
| atcctttaat | ctactgtgct | gggctgggtg | tcgaacctgc | atctttgcag | ccacctgatc | 240 |
| ccctgcagtt | tgatttttta | cccactgtgc | gacagtggaa | acttctgtca | ttaattttta | 300 |
| aaagtctctt | tccattgtta | cttcaagtat | ttttttctgt | tttatgtcct | cttttctcga | 360 |
| ctgataatcc | acccgcgtac | ctgcccgggc | ggccgctcga | aagccgaatt | ccagcacact | 420 |
| ggcggccggt | actagtggat | ccgagctcgg | taccaagctt | ggcgtaatac | tggcatagct | 480 |
| ggttcctgtg | tgaattgggt | atccgctcac | aatttcacac | aacatcgaac | cggaaacnta | 540 |
| agtgtaaacc | tggggtgcct | aatgaagtga | gctactcaca | ttaattgcgt | tgcgcttact | 600 |
| ggcgcgtttt | cagtcnggaa | anctgtontg | ccaactgcnt | taatgaatcg | gccaacgccc | 660 |
| cgggaaaagc | ngnttgctan | tgggcgcttt | ttcgctttct | tgttactgac | tntcgggctn | 720 |
| ggcggttnggt | tcgggnancg | nttancttac | tnaaanggcg | ggaataaccg | tntcccanaa | 780 |
| n | | | | | | 781 |

<210> 222

<211> 716

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 222

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttgngnntgg | tnnttctctt | ttggtattct | ctgagcctcc | tangtttgtg | gttggtatct | 60 |
| gtcattattt | attactattn | ttttaatgac | tgcacccact | gcaaatggaa | gttccccggc | 120 |
| tagtcattga | atcctagctg | catcggatag | ttatgccaca | gttgaggcag | aaccaagatc | 180 |
| ctttaatcta | ctgtgctggg | ctggtgatcg | aacctgcac | tttgcagcca | cctgatcccc | 240 |
| tgcagtttga | tttttaaccc | actgtgcgac | agtggaaact | tctgncatta | atttttaaaa | 300 |
| gttcttttcc | attgggtact | caagtatttt | tttctgnttt | atgtcttctt | ttcctgactg | 360 |
| ataaattcac | ccgngtacc | ctgncctggc | cngtcgntcg | aaaagcccga | attccnagca | 420 |
| cactggccgg | gccggtccta | gnggantccc | agcnttggta | ccnaagcttg | gcggaatcnt | 480 |
| gggcattanc | ctgnganncn | gtgntnaaaa | tggnnatccg | ctcaacaatt | ncaccacaac | 540 |
| catncngaan | cccggaaagc | nttaaaatgt | anaaggcctt | ggggtngcct | aatganngtt | 600 |
| gacttaactt | cacattnaat | tgcggttgcg | cctnaantng | ccgctttttc | aantcggnga | 660 |
| aaacctgtnt | agnccagctt | gganttaaat | gaaattgggc | caacgncccc | ggggaa | 716 |

<210> 223

<211> 783

89/122

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 223

```

agaacngaag atatatgtgt gagtgcgtgg tcttgaggct actacattgg gcagtgggca      60
gtaggaggaa taaagcagaa aataagggtg aatagaggat aatttattgg tttagaatcc      120
tgtggctcag agttcaatgt cttagtaagg atgtccagtt ttggtcttaa cacaatatgg      180
atagctctct gaagcttgga tccaatgata ctctctatatt tttagtagaa attatgaatc      240
ttccatggaa tggatttgag aaagtgatca gaaaacttag ggaaattaaa acatttagat      300
gaatttacta tgaaagaata gaaaacctgc tatttgatta tgttccttgg gagaaccacg      360
aagacctgta ttcacaaaga tgataagaaa tgcantagtg agagggggcac tagcatccat      420
gataagctta gtggagatga cctctgcaga canagaaggc acgagatatt ccctgctgag      480
ctcactggta tcaanaggaa ttatanaatt ccncaatanc nnaaacacga tgcagcactt      540
aatgcnnga gttngaccnn aatggcgtag tctttttacc ccacaaattn tcgggnaana      600
ttggccnatt gatgatgatn cttcaagaaa caatgtgtat gtcctgcccc ggcgggcgct      660
ctaaaaccn attcncacac tggngggccg tnctaattng atcccactcg gnccaanttt      720
gnngnancat gggnataact gnttcctgtg gggaaaannt atccctccca tttcccccac      780
can

```

<210> 224

<211> 654

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 224

```

ntttntacgt gcottgctat tactgtatgt cagattgcag gcttggtggt agagacagac      60
gaccacagag gtgccttga gcttatagct gagcaggagc ttctaagaca gtaaagtgtcc      120
agcttgtcct ctaaggaccc aaaatctgct tagggagaca gactcatcat cagtcattggt      180
tggtaatacc aggcaaagtc agataagtgc tgtaaagaaa ggaaaggag agcaaggcgg      240
tatgacaaag tggggagcaa gtnttaaaaa gtgtgatgat cttgcccaca ccaccatgga      300
accatggacg tagaactggg agtagaggaa gcagctncct gtgtctagga aataagtttt      360
acatggcata aaactcacia gtagactcag ctaatgcac aaactttttt ccagcacatt      420
tctagccgaa ggcataaggg atccganttg cagggaaacc cattgaagcc gaaattacag      480
ccctttcaac naactccagc nggaccccg gcnttttnc agttnggtca cctttccact      540
caccttggtt tatannggca nntccttgct tgactggggc cangggtttg tngnganggg      600
atgacctaen ggacttaatt nngtcctgaa anggnntntg aaatttaaat tccc      654

```

<210> 225

<211> 512

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 225

```

agcaaccttc cccacctcta caccttagct atctcgtata tacctgccta ctagggttaa      60
ctcaggagct ggctgttcga ttccactgtc atgtgcaacg tggacacatg agcttaacag      120
agaattgctt caccacaaaa gcagttggaa caaatgtatt ccttcactgc tgtagctggg      180

```

90/122

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gacagatcca | cagaggaaac | aggtatgaca | gaaatgggac | aggccagtaa | caattctgcc | 240 |
| ccaagcctcc | ttggctcttg | nctcttcaac | ttgctttctt | aggacaaaat | cttttataaa | 300 |
| ggaaagccna | gcanagagct | ggaatcatca | gtgtaccact | cctttcacaa | accactaaaa | 360 |
| ggaagtattg | catcgccccc | cggatactaa | gaaagattca | agtccaagtg | gcanaaaatc | 420 |
| agggggatta | aaaggaatgt | gttactcata | cancctattg | gggctataat | caatgnggaa | 480 |
| ttttaataaa | tgctttcatt | aattttnatt | gt | | | 512 |

<210> 226

<211> 794

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 226

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| acagcaacct | tccccacct | ctacacctta | gctatctcgt | atatacctgc | ctactagggg | 60 |
| ttaaactcagg | agctggctgt | tcgattccac | tgtcatgtgc | aacgtggaca | catgagctta | 120 |
| acagagaatt | gcttcaccac | aaaagcagtt | ggaacaaatg | tattccttca | ctgctgtagc | 180 |
| tggggacaga | tccacagagg | aaacaggtat | gacagaaatg | ggacaggcca | gtaacaattc | 240 |
| tgccccaagc | ctccttggtc | cttgntctct | ccaacttgct | ttcttaggac | aaaatctttt | 300 |
| ataaaggaaa | gccaagcaaa | gagctggaat | catcagtgtg | accactcctt | ncacaaacca | 360 |
| ctaaaaggaa | gtattgncat | cgcccccgga | tactaagaaa | gattcaagtc | caagtggcag | 420 |
| aaaatcaggg | ggattaaaag | gaatgtgttc | actcatcacg | cctattggtg | ctataatcaa | 480 |
| tgnggaatta | taataaatag | ctatcattta | tttttattgg | taanggacca | tttttcttca | 540 |
| cacttatctt | tgggtcaactg | gtaaggaaa | ctcattaaag | taaactcttg | gaaactagag | 600 |
| atnctntagaa | ccaaccaatc | acngcagtg | caagaaagcn | ccaatgnatc | tcctgctgaa | 660 |
| gtgatgtata | cctaaccatg | ttaccatgt | tcccctaaca | tacttcctgc | ntgggtttanc | 720 |
| actagtgggc | ccaggcactg | agtaactggc | cnggccggcc | ntnnaaaacc | naattcancc | 780 |
| actggnngn | cgtn | | | | | 794 |

<210> 227

<211> 715

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 227

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| nagaatagag | tagactagat | gtagaggtag | ggtagatcag | aaagttgata | ttttataaga | 60 |
| tttaaattca | gtatgcggaa | aacctttttc | tcctatgagc | attttctaaa | agccatctga | 120 |
| tttgacattc | ttatttagagc | tgtaggcaga | attgtgcaaa | gacaaacgta | aaaattaagt | 180 |
| ttttatttcc | ctgtattagg | aagttgaaat | aaactgttat | gaaaagtgtt | tacttcgaag | 240 |
| tattggtgac | caaggcttgc | caataactga | cggataaagc | agcattctgt | gtgtttaccc | 300 |
| taagtcatca | gttttaggtca | tttgaaagtt | atcaacgtta | taagtaagaa | cttgaggag | 360 |
| tagcaggaca | agctgtttga | aggacaacag | agtatccttg | gaaaagcagc | cccacttggg | 420 |
| cttttcagct | gtgtcaaaaca | tgaatctaaa | tccccacaga | gtacctgccc | gggcgggcgc | 480 |
| tcgaaagccg | aattccagca | cactggcggc | cgttactagt | gggatccgag | ctcgggccaa | 540 |
| gcttggcgta | atcatggnc | tagctgnttc | ctgtgtgaaa | ttggtatccg | ctcacaattc | 600 |
| acacaacata | cgagcccggg | agcataaagn | gtaaagcctg | gggtgcctaa | tgagtgaagt | 660 |
| aactccatta | attgcgttgc | gctcactggc | cgctttncan | tcgggaaacc | tgtcc | 715 |

<210> 228

<211> 728

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 228

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| tttgtgtcca | tacattgtcc | tntaatttgg | atgcgacttt | gaacagaacg | agattttctag | 60 |
| cttcatagag | cttactttct | aatagaatac | gaagaccaca | aataagtga | aaatgatcat | 120 |
| gtaatttcca | atcatattca | taagcatgaa | gataatacaa | aagggcaaaa | tatctaacia | 180 |
| tgatgggtgg | gcaagttaaa | taaggcagca | agaagaagag | atatatttga | aatagaaaga | 240 |
| catctcagag | ggggactatc | taagcaaagt | cctgacaaat | gaagagcaat | aagactggac | 300 |
| gaggaaataa | aatacaaaaga | atagcacaca | tagagtcttt | gaagcatggg | caaacttagt | 360 |
| atatctgaag | aataacaaaa | ttcactgttg | ttagatatta | gtaagaaaaa | tcatggaaaa | 420 |
| gacagggaag | aaggggttgag | ctagtcacat | atgccttaca | tcttcttggc | tggaagaaaa | 480 |
| aatnaggcan | gaacaaaaga | gtcagtga | tccaaaggag | gttcattttg | agcatgtcgt | 540 |
| cagagaaata | ctcatggaaa | tgtctttggg | ctgagatgga | agtnaggtaa | gacagcaaac | 600 |
| ccttggaat | ccgggagaag | tattgttcca | ggaagtagga | acagcaaaga | ctctgagata | 660 |
| gattttnttt | ttttaatggc | attcaaggga | gttcccaagg | agattatttc | canttgggag | 720 |
| tgaaanng | | | | | | 728 |

<210> 229

<211> 718

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 229

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| natacatatg | caccaaccct | aagatagaga | acatctctgg | aagcaggaaa | tctccaccac | 60 |
| gtcccctcca | gtccgtcctc | tctccaaaga | tgaccactat | tctgccttct | cttgtgagag | 120 |
| accaggttca | cccctgacct | tacagtttta | aactccta | ctggcgtggt | cctgaaggcc | 180 |
| cctctccctg | gcgggttcaca | aactccaatc | attatcttgt | aaacctacta | aacacgccac | 240 |
| tctgcttttc | agaaactttg | tgcttatatt | tttagtctat | tgacttaaac | attccccccc | 300 |
| ttcactaaat | tttctgagtg | gaaatcagtc | acttgcttga | agctcttcaa | agcttccacc | 360 |
| acctttttca | gtttctctgt | ctcccagcga | gtcctcacia | tggaagcccg | ggttttcatt | 420 |
| cttctgtcta | agtcagaat | ccacaaataa | cccctgggtt | gaaaaagttc | agctcatctc | 480 |
| tgaagtcttc | ctctctctgg | agttttgtgg | ccccaggcac | gttcagatat | ttataaattt | 540 |
| attctagatt | catattagcc | tgccggaggg | cctcaagtta | tcccatccca | ctcagaatca | 600 |
| gaagttcang | agtccccatt | gtggtgcaat | ggaaatgaat | ccgactgata | ttcatggagt | 660 |
| tgccgggtttg | atccctgacc | tngctcantg | gggttaaagg | atccangtgg | nataacnn | 718 |

<210> 230

<211> 720

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 230

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cagtgttcgt | atcctactgt | agtggttgtg | atgcttaaac | tcattgtttt | taggactaga | 60 |
| agtggcctcg | gagagcactt | aatctagcct | ttctcathtt | cacaagagag | gaaattgggg | 120 |
| gccagcgtga | tgaagtgatg | tatacathtt | acaaagtaaa | tggaacacc | agatgccctc | 180 |
| agtgcaggag | tgtggcccta | atgtctattg | catgacgcct | gtgtgttcag | gtgctgtcca | 240 |
| gctgctgtct | catttcatca | tggaatcac | cctaccttta | caagtgatga | aattgaggct | 300 |

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| cagaatatga | atggcatcgt | cccagccccg | aagtgcagaa | cactagtcag | cctgactggt | 360 |
| cattccacac | ttcatctcct | cttagctctt | tgcttttggt | cccacaataa | gaccaagtag | 420 |
| tagtatgtcc | catcaagtga | tggacttaga | ttggtaaaaag | atatgggttaa | aaaaccccac | 480 |
| tgttttaaaa | gtacctgcc | ggcgggccgc | tcgaaagccg | aattccagca | cactggcggc | 540 |
| cgttactagt | ggatccgagc | tcggtaccaa | gcttggcgta | atcatggcat | agctgggtcc | 600 |
| tgtgtgaaat | tggatatccg | tcacaattcc | acacaacata | cgacccggaa | cattaaagtg | 660 |
| taaagcctgg | ggtgcctaaa | tgagtgcgct | aactcacatt | aattgcgttg | cgctcactgg | 720 |

<210> 231

<211> 790

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 231

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| tcagactcct | cacctgttag | tatttttaaat | cttcatccct | gttgaagatg | ctggtgggtc | 60 |
| attcttggtg | caggaaatgt | attcccata | taggcagctt | tgtagaaaa | ttctaccagc | 120 |
| aagatgagcc | cttcacttac | agattaatta | taccgacttt | ttttttttct | ctcactacac | 180 |
| cttctactta | ttggaatcat | aaagtccagg | acagatcata | aggtccaatc | ataaaattgt | 240 |
| cctttaccag | gacaattcgt | catcacacat | atgaagccgg | atctcatggc | cttcttgaaa | 300 |
| tttccattct | ccagggtaaa | caatctgcac | ttctccttgt | tctctcttgt | gtttcgccca | 360 |
| ggacctttat | tcactccctt | tggttattac | ctcagtgtat | aattacatgt | cgattagtgt | 420 |
| gcattttatt | gattagcatg | ggagttggcc | atgctgtcta | tccaatattt | ctggctcttg | 480 |
| gcctttccag | catgaggcag | gactacactt | tcttcccggg | tggttgaagt | agaatgggtg | 540 |
| gactagtttt | ggccantgat | gngtgcattg | aaatgatata | tgctattccc | aagccaaggc | 600 |
| atgtagctgc | caaaaagaga | tcttacaggg | cttncttttc | cccagtagag | agaccctgaa | 660 |
| gttcttagat | gaggggttgc | ctgtccacct | aggtcctgga | tgaaggaaag | aagaacccca | 720 |
| gcccaacaat | tcttgataa | tcattgcagc | cctgaatgaa | aaaanaanga | ctttgnagtt | 780 |
| ttgagggcnc | | | | | | 790 |

<210> 232

<211> 788

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 232

| | | | | | | |
|------------|------------|------------|-------------|------------|-------------|-----|
| acatgcctna | acatactcag | agaaaaaaag | ggataaccat | acatgggctt | gcctcacttt | 60 |
| aaagtcatga | tccttaacct | cagtgcgtcc | ttaatggacc | cagtaatcat | attatatttc | 120 |
| cctagttatt | ntattctccc | acactcctgg | acaactgctg | atccattttc | ctccgtcctc | 180 |
| aaacctgtag | cacttacagc | acatagcttt | ctgatatagt | agacattcag | aagcagtcag | 240 |
| aagggaactt | ctacagactg | catctgtgtc | cttgtaattc | actgtcttct | ataagagatg | 300 |
| aactttgtgc | ctagctaaga | ccaactcacc | cacttatatg | ctagtttcct | ccttctcatt | 360 |
| gctctagcat | ttctccactt | ctgtatcatt | ttttcccctc | ttctagatca | ttcccactag | 420 |
| cctataatat | gttcttccat | cgaaaaaaa | aaaaaaaaa | aaaaaagtcc | tgcccgggcg | 480 |
| gcgntcgaa | agccgaattc | cagcacactg | gcggccgtta | ctagtggatc | cgagctcggt | 540 |
| accaagcttg | ggcgtaatca | tggcatagct | gtttcctgtg | tgaaaattgt | tatnccgggc | 600 |
| acaattccac | acacatacga | gccggaagcn | taaaagggtaa | agcctggggg | gcctaattgag | 660 |
| tgagctaact | tcaaatattt | nggcgtggcg | cttactggcc | ggttttccng | tccgggaaac | 720 |
| ctgtcngggc | cactgnatta | angaaatcgg | ccaacncccg | gggaaaaggc | ggtttgcgtt | 780 |
| ttggggccc | | | | | | 788 |

<210> 233

<211> 746
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 233
 ttctactant actttattca ctctgagaat cctcagattc tgaatcatat tgattttctg 60
 acaactgaat caaaaatagt ctaaaatttg ggaatttatg ctaacaagaa aacaagtgtg 120
 aatattttat ttcaaagatg atctctggaa accctcacac aagagtcaga ttgacttgg 180
 agagggggaa gaacatcagt aaacatgtat tactaagcac attactgctg gagataatgc 240
 aagtttaatc ccacccact agggacgtgg aaagccaaca tggatcacac tcctcagtca 300
 ttccacccaa agaagccagg gtattttatt accaattctt gtctgtcatt ggttgggtag 360
 tttggtttta attctacagc aattctgtct cgggtatttg atggacaaat tggttccagc 420
 tgccagaaat atccttcagg caaagggatg cagctgctac cagctggaat ttcagccctg 480
 tacctgcccg ggccggcccg ntcgaaaagc ccaattccag cacactggcc ggccgtacta 540
 agtggatccc aactcgggtc aagcttggcg taatcatggg caatactggt ttctggggtg 600
 aaattggtat tccggtcaca atttcccac aacttccgaa acccggaagc nttaaagtgt 660
 aaaacccttg ggggtgcccta atnaattaac ctacttccct ttaatttgcn tttgcgctta 720
 nttggcccgg tttttcaant cgggaa 746

<210> 234
 <211> 588
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 234
 tttnaaatan ccntgcacct gctantactg tatgtcagat tgcaggcttg gtgtagaga 60
 cagacgacca cagaggtcgc ctggagctta tagctgagca ggagcttcta agacagtaaa 120
 tgtccagctt gtcttctaag gacccaaaat ctgcttaggg agacagactc atcatcagtc 180
 atggttggtg ataccaggca aagtcagata agtgcgttaa agaaaggaaa gggagagcaa 240
 ggccggtatga caaagtgggg agcaagtctt aaaaagtgtg atgatcttgc ccacaccacc 300
 atggaaacct ggacgtagaa ctgggagtag aggaagcagc tacctgtgtc taggaataaa 360
 gttttacatg gcataaaact cacaagtaga ctcagctaat gcataaaact tttttccagc 420
 acatttctag ccgaaggcat aangatccga gttgcaggga aaccattgaa gccgaaatac 480
 ngcccttaca acatacttca gnngagcccn ancatttttag cangtaagtt caccttgcca 540
 ctcaccnngt tttatntggg cagcctttgc ttactggggg caangggg 588

<210> 235
 <211> 726
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 235
 ngcgggtagg agaacacaaa agagaaattt tggctcttctt gctgataaaa tgtgtagtag 60
 ttcaagcagt ttctatttca aaagcaaaaa aaaaaaatt ctcatgtttg aataataagt 120
 ttgtcaagaa atcattctga ttaacagaac agaaagaatg aagataatgg acagaggaga 180
 ggaaggagag cttcagaatg caagaaatct aatactgtaa aagagacagg tttctattaa 240

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| ctttgttata | tctttaatca | aaaccccccta | attgtgtgta | atgcaagcca | ggcagggtcag | 300 |
| ttggccaggg | cagcaccgat | tgaaagatag | atgggttttgc | atgagggtgat | ttcacttttag | 360 |
| agattcagag | cctagaaaaag | agagcagcat | ttctgtttctg | tgcataggat | catggggcggg | 420 |
| tatgagagga | tacccttttca | gtacctgccc | ggggcgccgc | tcgaaagccg | aattctgcag | 480 |
| atatccatca | cactggcggc | cgctcgagca | tgcatctaga | gggcccatt | cgccctatag | 540 |
| tgagtcgtat | tacaattcac | tggcgcgtcgt | tttacaacgt | cgtagactggg | aaaacccctgc | 600 |
| gttcccaact | taatcgccctt | gcagcacatn | cccctttcgc | cagctggcgt | aatagcnaaa | 660 |
| angccccgca | cccgatcgcc | cttccaacag | ntgcgcanc | tgaatggcga | aatggggcccc | 720 |
| cccctn | | | | | | 726 |

<210> 236

<211> 739

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 236

| | | | | | | |
|------------|-------------|-------------|------------|-------------|-------------|-----|
| tttgaancc | cttgggant | tnctcctgag | agaatctgcc | tggcttgctg | ctganatctc | 60 |
| tgcttttggc | tctgtgatgt | cctattccat | tgggttcctg | atctttctta | ctgcccaggc | 120 |
| ctctgcttcc | ctaaggctgc | cacatcctca | ttgngttctc | atcatcactt | tgctgaacta | 180 |
| gagcaaacc | ttttcttcgn | ggcttttatt | tcactccatt | acaatgacaa | cacttttgaa | 240 |
| attgccctga | gcactcatta | tctcacagtt | attttaatga | tctattttatt | tattttcttat | 300 |
| taccagcttc | tcanaacttca | tcacaggact | ttggggataa | ggagtgggaag | anaagccagg | 360 |
| acagaggatt | acaggagcag | ttaanatcca | tggngtacct | gcccggggcg | ccgntcnaaa | 420 |
| gccgaattcc | agcacactgg | cggcgcgttac | tagtggatcc | gagctcggtta | ccaagctttg | 480 |
| gcgtaatcat | gggcatagct | gttcctgngt | gaaatgtatc | cgttacaatt | cccacaacat | 540 |
| tcgaaccgca | agcntaaaag | gtnaaacctg | ggngccctaa | tgagtgaact | aactcacatt | 600 |
| aattgcgttg | cgctcactgn | ccgtttccat | cnggaaacct | gtcgnccac | tgcattaagn | 660 |
| attggncaac | ccccgggaaa | ggcgggttgc | gtattgggcn | cttttccctt | cctggtnact | 720 |
| gactcnttgg | nctnggcn | | | | | 739 |

<210> 237

<211> 718

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 237

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| ttctgcctga | tttattatta | gatttgggga | tttttgtaaa | taaacaacgg | aaaagaacgg | 60 |
| cagaactagg | agaaaaatac | aaataaatga | agagtccact | acagaaagag | atgctacaat | 120 |
| aacaaatgaa | tagccaaaga | aggccaaaga | ttcataaata | ctagctttct | caagtaataa | 180 |
| atgagtgct | gtaaggcact | ggagtacta | ctctagcaat | acagttttgc | tacagaaggg | 240 |
| gataatgatc | ccaagtatat | cacacacaaa | gagtttctaa | gataactctc | ccgcgtacct | 300 |
| gcccggggcg | ccgctcgaaa | gccgaattcc | agcacactgg | cggccgttac | tagtggatcc | 360 |
| gagctcggtta | ccaagcttgg | cgtaatcatg | gtcatagctg | tttcctgtgt | gaaattgtta | 420 |
| tccgctcaca | attccacaca | acatacgagc | cggagacata | aagtgtaaa | cctgggggtgc | 480 |
| ctaagtga | agctaaactca | cattaattgc | gttgcgctca | ctgcccgtt | tccagtcggg | 540 |
| aaacctgtcg | tgccagctgc | attaatgaat | cggccaacgc | gcggggagag | gcggtttgcg | 600 |
| tattggggcg | tcttccgctt | cctngctcac | tgactcgctg | cgctcggggc | ttcgngtgcg | 660 |
| gnnaacgggt | tcaagcttac | tcaaangcgg | naatacngnt | atncacagaa | tcagggga | 718 |

<210> 238

<211> 716

<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 238
cgcggtgag tggccttaca ggaaggctga tttagaattt ggcacatacc agacaactgt 60
tccatggaag caggttacct tcccttagat gactctgggt ttatttggtt tgcctccaga 120
agtcactgtt tcatatataat aaatgcgggt cttccctaaa taaaattcgg tcttctttca 180
gacataaaca ctttcagggt taagaatagc tgtgtgctcc ctctgattta gaagaccttg 240
caaaaatggc tttggaccac agccttccag atataactgg catttttagaa gccctgatcc 300
cagcaggccc cggcaggatc caagagggca aaaagagagc cactgggtga ctctggaact 360
tgctgggctg gtctacacct ctgtgctttg catatgctgt gttctctgct ggaaatgcac 420
tccccacttt ctccaatgaa tatcttccca tgacctgtgt ctctttcagg actcatccat 480
gtgcccactc ttctatgaag ccttcatcgc agggcctgggt ctcttcatgt ccttctctct 540
cagatcccaa aatgacagac acttgtctca gaagctctac taggtgccag gaatcagtaa 600
atgtgggttg cttggcagggt ggttgatgga ccaagtgtac tgccangggg tctaccctga 660
cccttatttt ctctctagac tagacctcag tgtggatgtc tgtgacataa gtctga 716

<210> 239
<211> 675
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 239
cggcctctc gcaggaactg acaggaacca tgcctcacca ataccagcc ctgaccccg 60
agcagaagaa ggagctctct gacattgctc accgcatcgt ggctccgggc aagggcattcc 120
tggctgcaga tgagtccact gggagcattg ccaagcgact gcagtccatc ggcaccgaga 180
acaccgagga gaaccggcgc ttctaccgcc agctgctgct gactgccgac gaccgcgtga 240
atccctgcat tgggggcgct atcctcttcc acgagacgct ctaccagaaa gccgatgatg 300
ggcgctccct cccccaagtt atcaaagcca agggcggtgt tgtgggcac c aagggtggaca 360
aggggtgtgt acctgcccg gcggccgctc gaaagccgaa ttctgcagat atccatcaca 420
ctggcgccgc ctcgagcatg catctagagg gcccaattcg ccctatagtg agtcgtatta 480
caattcactg gccgtcgttt tacaacgtcg tgactgggaa aacctggcg ttaccaact 540
taatcgcctt gcagcacatc cccctttcgc agcttggcgt aatagcgaan aagcccgacc 600
gatcgccctt ccaacagttg cgcacctgaa tggcgaatgg accccctgt ancggcgcat 660
taagcgcggc cgggt 675

<210> 240
<211> 813
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 240
taaagaagga tgactgactt tgccaagtgg cgctgtgtgc tgaagatcgg ggagcacacc 60
ccctcctccc tcgccatcat ggaaaacgcc aacgtcctgg cgcgttatgc cagcatctgc 120
cagcagaatg gcattgtgcc catcgtggag cccgagatcc tccccgatgg ggaccatgac 180
ttgaaacgct gtcagtatgt aaccgagaag gtgctggctg ctgtctacaa ggctctgagc 240

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gaccaccaca | tctacctgga | aggcaccttg | ctgaagccca | atatggtaac | cccaggccac | 300 |
| gcctgcaccc | agaaatattc | tcacgaggag | attgccatgg | caactgtcac | ggcgctgcgc | 360 |
| cgcacagtgc | ccccgcgtgt | ccctgggata | accttcctct | ccggaggcca | gagcgaggag | 420 |
| gaggcctcca | tcaacctcaa | cgccatcaac | aagtgcctcc | tgctgaaccg | tgggcccctga | 480 |
| ccttctctta | tggccgagcc | ctgcangcct | cggcctgaag | gcctggggcg | gaaagaagga | 540 |
| aaacctgaag | gcccgcagga | agaatatgtc | aagcgagccc | tggcaacagc | cttgctgcca | 600 |
| aggaaagtac | ctgccggcgg | ccgntcgaaa | gccgaattct | gcagatatnc | atcacactgg | 660 |
| cggccgttcg | agcatgcata | taganggcc | aattcgccct | atagttagtc | gattacaatt | 720 |
| cactggccgt | cgtttacaac | gtctgactgg | gaaaaccctg | cgttacccaa | cttaatcgct | 780 |
| tggaagacaa | tcccctttng | ccagttgggg | ttaa | | | 813 |

<210> 241

<211> 801

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 241

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| tgtggccctg | gacactaaag | gacctgagat | ccgaaccggg | ctcatcaagg | gcagcggcac | 60 |
| tgctgaggtg | gagctcaaga | aaggagccac | gctcaagatc | accctggata | atgcctacat | 120 |
| ggaaaagtgt | gacgagaatg | tcctgtggct | ggactataag | aacatctgca | aggtgggtgga | 180 |
| tgtgggcagc | aaggtctacg | tggatgatgg | acttatttct | ttgctggtga | agcagaaagg | 240 |
| tcctgacttc | ctgggtgacg | aggtggagaa | cggcggtctc | ctgggcagca | agaaagggtgt | 300 |
| gaaccttcct | ggagctgctg | tggacctgcc | tgccgtgtcc | gagaaggaca | tccaggatct | 360 |
| gaagtttggg | gtggagcagg | acgtggatat | ggtgttcgca | tctttcatcc | gtaaggcggc | 420 |
| cgacgtncat | gaagtcagga | aggtcctggg | agagaaagga | aagacctcag | gatatacagca | 480 |
| aaatcgagaa | tcncaaggag | ttcggagatt | tgatgagatc | ctaaaaccac | catgggttcat | 540 |
| ggngctctgg | ngatctaggc | nttgaaattc | ctgcaaaaaa | ggtcttcctt | ccnanaaaat | 600 |
| gatnattggg | ccggggcaac | cnaacttggg | aaacctgtct | tttggcccn | caaantnttg | 660 |
| anantttgat | caaaaacccc | gtcccaccn | ggcttaaggc | natgatttgg | ccatccanct | 720 |
| tggatnggac | ttnctggnt | atgcttntg | gaaaaacggc | caaaggggnc | tccccctnga | 780 |
| ggtgttcca | atgcanancc | c | | | | 801 |

<210> 242

<211> 820

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 242

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|-----|
| tatagaagtc | ttccttgccc | agaagatgat | gattgggcgg | tgcaaccgca | gctgggaagc | 60 |
| ctgtcatctg | tgccacgcag | atgctggaga | gcatgatcaa | gaagccccgt | cccaccggg | 120 |
| ctgagggcag | tgatgtggcc | aatgcagtct | tggatggagc | tgactgcata | atgctgtctg | 180 |
| gagagacggc | caaaggggac | tacccctggg | aggctgttcg | catgcagcac | ctgatagctc | 240 |
| gtgaggctga | ggcagccatg | ttccaccgca | agctgtttga | agaacttggt | cgagcctcca | 300 |
| gtcactccac | agacctcatg | gaanccatgg | ccatgggcag | cgtggaggct | tcttataagn | 360 |
| gtttancggc | agntttgata | gttctgacgg | agtctggcag | gtccgcacat | caggtggnta | 420 |
| ggtnacata | tccataccat | agaaaccagn | tcatgtgtac | ctgcccggcg | gccgntnnaa | 480 |
| accgaattcc | agcacactgg | ggggccgttac | tagnngatcc | gagctcgggtc | caatcttggc | 540 |
| gtaatcatgg | catagctgtt | cctgtgtgaa | attgtatccg | ctcacaattc | acacaacata | 600 |
| cganccggaa | gcataaaaagt | gtaaaancctg | gggtgcctaa | tgagtgacta | actcacatta | 660 |
| attgcgttgc | gtcacttgn | ccgttttcaa | ttgggaaacc | ttgtngtgcc | nacttgnatt | 720 |
| aatgaattcg | gccaaacccc | cgggaaaagc | ggttgcnttt | tgggcgcttt | tccgcttntc | 780 |

nnntnaattg aatnnntgnn cttnggnnt tcggttggg

820

<210> 243

<211> 482

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 243

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tgctcactgg | caatttctct | ggagctttgg | catgcttgat | ttcaatggca | tctgctctca | 60 |
| agtcatagcc | tttctgcttg | gcctcatccc | agtctttctg | gtagagttaa | ttgctgattt | 120 |
| gcatggcatt | gatgtgggcc | tgcagtatga | gtggcgtgtc | agaaggaagg | cttatgtttg | 180 |
| ttttatcttt | attccaggct | tcttgatata | gtttctcact | catctgcaga | gaattggcct | 240 |
| ttgccaggac | aacctctggc | gtgtcgacga | cggaagtga | tttcaaggct | tctgggcgtg | 300 |
| tctgtagcc | gtccttcatt | caccaggctc | tgagcattct | tcaccctgtt | catttctaca | 360 |
| gagccttcag | gcatccagcc | gatgccacgc | agccactcca | ggtctgtttt | gtacctgccc | 420 |
| gggcggccgc | tcgaaagccg | aattccagca | cactggcggc | cgttactagt | ggatccgagc | 480 |
| tc | | | | | | 482 |

<210> 244

<211> 394

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 244

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tgctcactgg | caatttctct | ggagctttgg | catgcttgat | ttcaatggca | tctgctctca | 60 |
| agtcatagcc | tttctgcttg | gcctcatccc | agtctttctg | gtagagttaa | ttgctgattt | 120 |
| gcatggcatt | gatgtgggcc | tgcagtatga | gtggcgtgtc | agaaggaagg | cttatgtttg | 180 |
| ttttatcttt | attccaggct | tcttgatata | gtttctcact | catctgcaga | gaattggcct | 240 |
| ttgccaggac | aacctctggc | gtgtcgacga | cggaagtga | tttcaaggct | tctgggcgtg | 300 |
| tctgtagcc | gtccttcatt | caccaggctc | tgagcattct | tcaccctgtt | catttctaca | 360 |
| gagccttcag | gcatccagcc | gatgccacgc | agcc | | | 394 |

<210> 245

<211> 835

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 245

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tgnaancct | tggaaantcc | agctttttat | gcttnatttc | ccggcatctg | ctctcaagtc | 60 |
| atagccttct | gcttggcctc | atccnagtct | ttctggtaga | gtnatttgc | gatttgcatt | 120 |
| gcattgattg | tggcctgcag | tntgagtggc | gtgtcaaaaa | ggaaggctta | tgtttgntnt | 180 |
| atctttattc | caggcttctt | gatatagttn | ctcacttcat | ctgcanaaga | attggccttt | 240 |
| gccaggacaa | cctntggcgt | tgtcngaccn | acggaagtga | aatttcaagg | gcttctggnc | 300 |
| gtgtcctgca | ncgnccttaa | tttcaccagg | tcttgancat | tctttnaccc | ntgccaattn | 360 |
| ctacagagcc | ttnangcatn | cagccnntnc | cacggcagcc | acttcaagnc | atgttttgga | 420 |
| ccttgccctg | ggcggccggt | cnaaaagccc | naattccagn | nacaacttgc | cgcccggtn | 480 |

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| ttagnngaat | ccnaaccttc | ggtncctaac | tttgcngraa | nncatggggc | antagcttga | 540 |
| tnccntnngt | nnaaaaatng | gnnatcccnt | tnancantnc | ccnancaga | ttctaaccng | 600 |
| gaanctntaa | tgngntaaac | cttgggntnc | cnnaattnat | nnaanctnan | ctnaacnttn | 660 |
| aattnnagagn | tgnnnctaan | ttgccnnttc | tcaatntngg | gaaaaccttt | nnngnncccc | 720 |
| ncttncntaa | tggaatntng | ncncaacccc | cngngaanaa | ngncngtttn | nactattngg | 780 |
| ccnnnttttt | ccnnctccnt | ntgtacnntn | aatanntntn | acttttngat | tttct | 835 |

<210> 246

<211> 800

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 246

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| aattcgagcc | atcttgaaat | cgggctctcg | gtgttctcat | gggagcaaga | aaggaccagt | 60 |
| gatctgtatg | tggatcatag | cattcaactg | ttcgaagaca | ttcctcccgg | ttatagccac | 120 |
| ctgcagctat | gagtttgcca | ttcatctctg | ctgtccccag | accagatcgt | gcatactgca | 180 |
| taggagacat | gggcttttct | attagctcat | ctgggtgcat | ctcaaagctt | aaacttttag | 240 |
| tgagttttgg | agtgtctgtt | ggtgagcttt | gtgggctgtt | tcgcccataa | aggaaaatga | 300 |
| cacagaatat | accatccagc | acagccaggc | acaagtaagt | gttatttgag | gcttttccga | 360 |
| agcaacgatt | ttccactcat | gcttagggct | ttgncctgcc | cgggcggccg | ttcgaaagcc | 420 |
| gaattctgca | gatattccatc | acactggcgg | ccgttcnanc | atgcattctan | agggcccaat | 480 |
| tcccctatag | ngagtcgtnt | acaattcact | gccgcgttta | caacgtcntg | actgggaaaa | 540 |
| ccctggcggt | cccacttaat | cgccttgcat | nanatcccc | tttcgccagc | tgccgtaata | 600 |
| ncnaaaaggc | ccgnccgatc | gcccttccaa | cagttgcnc | ccctgaatgg | caaatggacc | 660 |
| ccccctgtac | ggccattaaa | ccnccggngn | tgtgggggta | ccccccaggg | gacccgntac | 720 |
| attgcaagnc | ttanccccgt | tctttctntt | tttcccttct | ttttncannt | tcnccgnttt | 780 |
| cccgnaaact | ttaaatgggg | | | | | 800 |

<210> 247

<211> 823

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 247

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| nntgcccttc | ganatcgggc | tctcggtggt | ctatgggagc | aagaaaggac | cagtgatctg | 60 |
| tatgtggatc | atagcattca | actgttcgaa | gacattcctc | ccggttatag | ccacctgcag | 120 |
| ctatgagttt | gccattcatc | tctgtgtgct | ccagaccaga | tcgtgcatac | tgcataggag | 180 |
| acatgggctt | ttctattagc | tcatctgggt | gcattctcaa | gcttaaaact | ttagttagtt | 240 |
| ttggagtgtc | tggttggtgag | ctttgtgggc | tggttcgccc | atgaaggaaa | atgacacaga | 300 |
| atataccatc | cagcacagcc | aggcacaagt | aagtgttatt | tgaggtcttt | tccgaagcaa | 360 |
| cgattttcca | ctcatgctta | ggcctttgta | cctgcccggg | cggccgctcg | aaagccgaat | 420 |
| tctgcagata | tccatcacac | tgccggccgc | tcgagcatgc | atctagaggg | cccaattcgc | 480 |
| cctatagtga | gtcgtattac | aattcactgg | ccgtcgtttt | acaacgtcgt | gactgggaaa | 540 |
| accctggcgt | tacccaactt | aatcgccctg | cagcacatcc | ccctttcgcc | agctggcgta | 600 |
| atagcgaaga | ggcccgccac | gatcgccctc | ccaacagttg | cgcagcctga | atggcggaatg | 660 |
| gacgcgccct | gtagcggcgc | attaaagcgc | cggcgggtgt | ggnggttacc | cgancgtga | 720 |
| ccgntacant | ttgcaagcgg | cctaaccgcc | ggtcccttcg | tttcttncct | tcctttctng | 780 |
| ccacgggtngc | cgnttttccc | cntnaagctt | ttaaatcggg | ggg | | 823 |

<210> 248

<211> 793

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 248

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| ncgagancag | cgagcaggag | ggacgacggg | tccagcccca | ggacggggag | tcaatgcaga | 60 |
| agccgtggga | gtgggatcaa | gtccctccac | atcgacattc | tcttcttttag | ggcctgggtc | 120 |
| cccaacaagt | ggcactgtca | ccgaatggta | ggtgattatg | ggcccagggc | acttgcgctt | 180 |
| cttatggacc | tgcttctttt | tgtcagcctc | gagccgctca | taggtctcca | gtgaacgtaa | 240 |
| gttgagctct | tctgtgatct | tagcctccct | gagcagctcc | tcctgggtca | gtggccgctc | 300 |
| acagtggggc | ccctttcgcc | gccgtgactg | accctgccgc | tcttgtaact | gcccggcgcg | 360 |
| ccgtcgaaag | ccgaattctg | cagatatcca | tacactggcg | gccgtcgagc | atgcatctag | 420 |
| aagggcccaa | ttcgccctat | agtgagtcga | ttacaattca | ctggccgcgt | ttacacgtcg | 480 |
| tgactgggga | aacctggcgt | accacttaa | tcgcntggaa | gacatcccct | tttcgcaact | 540 |
| ggcgtatacc | naaaagcccc | accgatgccn | tccnacagtt | gccanctaata | gncaatggac | 600 |
| cccccttgta | ccngcatta | accccgcggt | ttgggggtac | ccccanntna | accgttannt | 660 |
| tgcaaaggnc | ttangccggt | tcctttnttt | tnttcccttc | ttttttgnca | cgttgcccgn | 720 |
| tttcccggtg | aactttttaa | tnggggctcc | cttttagggg | ccaaattaag | ggcttacggg | 780 |
| gnccttaacc | cnt | | | | | 793 |

<210> 249

<211> 796

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 249

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|-----|
| ncagtcattg | gtgctgaact | tcgtctgttc | tagctacact | aggtgaaaag | atgaaagagg | 60 |
| aagaagtggg | agccctgatg | gcagggtcaag | aagactccaa | tggccgcate | aactatgaag | 120 |
| cctttgtcaa | gcacatcatg | tctatctaaa | tagagctctc | aagatcaagt | actgcgttaa | 180 |
| gaagactgac | tggaacctta | ttttaataat | acccatgact | aactgtccaa | atctgtttac | 240 |
| caccatttcg | gaaaacaaaa | caacttggac | cattctggac | taagggactc | cctgagtttt | 300 |
| tatacactgn | ttccctctga | attatattca | taccacacaa | accaagtgtc | tgctgctcta | 360 |
| gacaagaagg | ataaaatact | gacaatctca | aatccaagca | ccactcttta | ttttctacag | 420 |
| tgggtcaaaa | aaatccttaa | aataataaat | caataataaa | ttttggcagt | ctgtcagtac | 480 |
| ctgccngggc | ggcgctcgag | aattncagcc | actggcgggc | gttactagtg | gatccgactc | 540 |
| ggnaccaagc | ttggcgtaat | catnggcata | gctgggttct | gtgtgaaaat | ggtatncgct | 600 |
| cacaattccc | acaacatacg | aaccggaacn | ttaagtgtaa | acctgggggtg | cctaattgag | 660 |
| gactactcca | ttaatgcgtg | cgctnactgc | cgttttcagt | cnggaaacct | gtcgtgccac | 720 |
| tgcnttatga | atcgggccacc | cccgggaaag | cggtttgcca | ttgggccttt | ttcgcttctt | 780 |
| gttantgaat | nntggg | | | | | 796 |

<210> 250

<211> 675

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 250

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|-----|
| ntttgatgaa | cccttggttac | aagacctttt | taacnaacta | gaacttactt | tgtgagaaga | 60 |
| aactaagagg | gaaaaacaagt | gaacaaaagct | cttttctggt | gactagggtg | gtggctctga | 120 |
| aaagagcctt | ttggagtcaa | gcggcacggc | gactcagagc | agcgccacgt | cccggcaggg | 180 |
| acttacttgg | agctgggtga | cctgcccggg | cggecgntcg | aaagccgaat | tccagcacac | 240 |
| tggcgggcgt | tactagtgga | tccgagctcg | gtaccaagct | tggcgtaatc | atggtcatag | 300 |
| ctgtttcctg | tgtgaaattg | ttatccgntc | acaattccac | acaacatacg | agccggaagc | 360 |
| ataaagtgtg | aagcctgggg | tgccataatga | gtgagctaac | tcacattaat | tgcttgccgc | 420 |
| tcactgccc | ctttccagtc | gggaaacctg | tcgtgccatc | tgcatthaatg | aatcgggcaa | 480 |
| cgcgcgngga | aaaggcggtt | tgcggtattg | gcgctcttcc | gcttcctcgc | tcactgactc | 540 |
| gctgcgctcg | gtcggttcggc | tgcggnnagc | ggatcagct | cactcaaagg | cggtaatatg | 600 |
| ggatcacag | aatcagggg | ataaccag | aaagaacatg | tgancaaaag | gccagcaaaa | 660 |
| ggccaggaac | cgtaa | | | | | 675 |

<210> 251

<211> 819

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 251

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| ttgtaaacct | ttngtgggtc | ccccacagtc | tcgaccttga | acctctcgtc | atccgcaatg | 60 |
| tcttcgtagg | atttgcacca | ggtgaagtga | gaggcatccg | tcctctctcg | gcagtcaaag | 120 |
| ctcaagtnga | tggtgccctc | ctcgctotacc | cccgcactga | tctccttcgt | gcctggcctg | 180 |
| gcctccacca | gcaccgggtc | cgatgtgtcc | gagggtcttc | ccaccccggt | tgctgttacc | 240 |
| gccctgacgc | ggaagacata | ggtttttcc | tggtgcagg | cacagacctt | taagtaacga | 300 |
| tttgcagtg | caacttcatt | gacgggtgtc | cactctccag | aatcctcctc | cttaaaatcc | 360 |
| acaaagttag | cagagacagg | gctgctaccg | gaatacacag | gagctttcca | gagcaagacc | 420 |
| agggacgtgt | cccggacctc | acagaacgtc | aggtcgtagg | caggacctgg | ctcaggcgct | 480 |
| gtccaggcct | acacttgaag | agctcactgg | gatccgacgg | cagcccgatc | cccaccaggt | 540 |
| tggcggcagc | aattttgaat | tcatacgctc | agccttctgt | caagcccttc | accgtgagga | 600 |
| tcctctcttt | gagaagtga | gagttgactt | cgtgccagtt | tttgtggtgg | ccttccgctt | 660 |
| gtccacgtan | tacctgccc | gcgggcnctc | naagccgaat | tctgcanata | tccatnacac | 720 |
| tggcgggcgt | tgaacatgca | tntaaanggc | ccaatngncc | tatagtgage | cgattacaat | 780 |
| tnctggggcg | ngttttacaac | gtcgtgaatg | ggaaaacn | | | 819 |

<210> 252

<211> 817

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 252

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tcagctttga | tggtccccc | cagtctcgac | cttgaacctc | tcgtcatccg | caatgtcttc | 60 |
| gtaggatttg | caccagggtg | agtgaaggc | atccgtcatc | tcctggcagt | caaagctcaa | 120 |
| gtagatgttg | cctcctctgt | ctacccccgc | actgatctcc | ttcgtgcctg | gcctggcctc | 180 |
| caccagcacc | ggctccgatg | tgtccgaggg | cttccccacc | ccgtttgcgt | ttaccgccct | 240 |
| gacgcggaag | acatagggtt | ttccttgggt | caggtcacag | acctttaagt | aacgatttgc | 300 |
| agtggcaact | tcattgacgg | tggtccactc | tccagaatoc | tcctccttaa | aatccacaaa | 360 |
| gtagccagag | acagggtgc | taccggaata | cacaggagct | ttccagagca | agaccaggga | 420 |
| cgtgtcccgg | acctcacaga | acgtcaggtc | gtaggcagga | cctggctcan | gcgctgtcca | 480 |
| ggcctacact | tgaagagctc | actgggatcc | gacggcagcc | cgatccccac | cangttggcg | 540 |
| gcagcaatth | tgaattcata | cgctcagcct | tctgtcaagc | cctcaccgtg | aggatcctct | 600 |
| ctttgagagg | tgaagagttg | acttcgtgcc | agtttttgtg | gtggccttcc | gcttgtccac | 660 |

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gtagtacctg | ccggcggmncg | ttcnaaccga | attctgcaat | atccatacac | tggcgggcgt | 720 |
| tnagcatgca | tntanagggc | caatttgccc | tatagnagat | cgattacaat | tcactggccg | 780 |
| cgntttacaa | cgtcngaattg | ggaaaaacct | ggcgtnnt | | | 817 |

<210> 253

<211> 820

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 253

| | | | | | | |
|------------|-------------|------------|------------|-------------|-------------|-----|
| tnnttncagc | tttgatggtc | ccccacagtc | tcgaccttga | acctctcgtc | atccgcaatg | 60 |
| tcttcgtagg | atttgcacca | ggtgaagtga | gaggcatccg | tcattctcctg | gcagtcaaag | 120 |
| ctcaagtaga | tggtgccctc | ctcgtctacc | cccgcactga | tctccttcgt | gcctggcctg | 180 |
| gcctccacca | gcaccggctc | cgatgtgtcc | gagggcttcc | ccaccccggt | tgcgtttacc | 240 |
| gccctgacgc | ggaagacata | ggtttttcc | tggtgcaggt | cacagacctt | taagtaacga | 300 |
| tttgcagtgg | caacttcatt | gacggtgttc | cactctccag | aatcctcctc | cttaaaatcc | 360 |
| acaaagtagc | cagagacagg | gctgctaccg | gaatacacag | gagctttcca | gagcaagacc | 420 |
| agggacgtgt | cccggaacct | acagaacgtc | aggtcgtagg | caggacctgg | ctcaggcgct | 480 |
| gtccaggcct | acacttgaag | agctcactgg | gatccgacgg | cagcccgatc | cccaccagggt | 540 |
| tggcggcagc | aattttgaat | tcatacgtcg | agccttctgt | caagcccttc | accgtgagga | 600 |
| tcctctcttt | gagangtgaa | gagttgactt | cgtgccagtt | tttgtggtgg | cctnccgctt | 660 |
| gtccacgtag | tacctgccgg | cgngcgnctg | aacccaattc | tcagagatatn | catcacactg | 720 |
| gcggncgntn | gaacatgcat | ntaganggnc | caattcgccc | tatagttagt | cgattacaat | 780 |
| tnatgggcn | cgttttacaac | gtctgactgg | gaaaacctgc | | | 820 |

<210> 254

<211> 825

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 254

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| ncagctttga | tggtccccc | cagtctcgac | cttgaacctc | tcgtcatccg | caatgtcttc | 60 |
| gtaggatttg | caccagggtga | agtgaagggc | atccgtcatc | tcctggcagt | caaagctcaa | 120 |
| gtagatgttg | ccctcctcgt | ctacccccgc | actgatctcc | ttcgtgcctg | gcctggcctc | 180 |
| caccagcacc | ggctccgatg | tgcccgaggg | cttccccacc | ccgtttgcgt | ttaccgccct | 240 |
| gacgcggaag | acatagggtt | ttccttggtg | caggtcacag | acctttaagt | aacgatttgc | 300 |
| agtggaact | tcattgacgg | tgttccactc | tcagaaatcc | tcctccttaa | aatccacaaa | 360 |
| gtagccagag | acagggctgc | taccggaata | cacaggagct | ttccagagca | agaccagggga | 420 |
| cgtgtcccgg | acctcacaga | acgtcaggtc | gtaggcagga | cctggctcag | gcgctgtcca | 480 |
| ggcctcacac | ttgaagagct | cactgggac | cgacggcagc | ccgatcccca | ccaggttggc | 540 |
| ggcagcaatt | ttgaattcat | acgtcgagcc | ttctgtcaaa | gccctccacc | gtgaggatcc | 600 |
| tctcttttag | aggtgaagaa | ggtgacttcg | tgccagtttt | tgtggtggcc | tnccgcttgt | 660 |
| cacgtagtac | ctgccggggc | gncgctcgaa | ccgaattctt | gcagatatcc | atnactgggc | 720 |
| ggcgntcgag | ctgcatctag | agggcccat | cgcctatagt | gagtcgtatt | tacaattcac | 780 |
| tggcgcgtcg | ttacaacgtc | gtgactggga | aaaacctggc | gttnt | | 825 |

<210> 255

<211> 815

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 255

| | | | | | | |
|-------------|------------|-------------|-------------|-------------|-------------|-----|
| ttttn gatgg | tccccacag | tctcgacctt | gaacctctcg | tcattccgcaa | tgtcttcgta | 60 |
| ggattttgcac | caggtgaagt | gagaggcatc | cgatcatctcc | tggcagtcac | agctcaagta | 120 |
| gatgttgccc | tctctgtcta | cccccgcact | gatctecttc | gtgcctggcc | tggcctccac | 180 |
| cagcaccggc | tccgatgtgt | ccgagggctt | ccccaccccg | tttgcgttta | ccgccctgac | 240 |
| gcggaagaca | taggtttttc | cttggtgcag | gtcacagacc | tttaagtaac | gattttgcagt | 300 |
| ggcaacttca | ttgacgggtg | tccactctcc | agaatcctcc | tccttaaaat | ccacaaagta | 360 |
| gccagagaca | gggctgctac | cggaaatacac | aggagctttc | cagagcaaga | ccagggacgt | 420 |
| gtcccggacc | tcacagaacg | tcaggtcgta | ggcaggacct | ggctcaggcg | ctgtccaggc | 480 |
| ctcacacttg | aagagctcac | tgggatccga | cggcagcccg | atcccacagg | ttggcggcac | 540 |
| aattttgaat | catacgtcga | gccttntgtc | aagcccttca | ccgtgaggat | cctctctttg | 600 |
| agaggtgaag | agtgacttcg | tgccaatttt | tgtggtggcc | ttccgcttgt | cacgtagtac | 660 |
| ctgcccggcg | gccgttcgaa | acccaattct | gnagatatnc | atcaactggc | ggncggtgaa | 720 |
| ctgcattcta | nagggccaat | tcgnctata | gngagtcnta | ttacnattca | tggccgtngt | 780 |
| tttacacgtc | nngactgggg | aaaacctggc | gttnt | | | 815 |

<210> 256

<211> 813

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 256

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| tacacacagc | cccctccccg | gcattccccca | gggccacaga | ggaacctctg | tcaggtagga | 60 |
| aagcagagtc | ccaggccccg | cgctggaggg | gtaagcagat | ggctctctgt | ttataccaac | 120 |
| agctttgctt | ccttaaagtc | tggcattttac | agctggaggc | acagggccca | tccactttctc | 180 |
| gcccagcagg | tgtgcccagc | gtcccatccg | gtcagagcca | aagagcatgt | gtgtttttgtc | 240 |
| atccaggtgg | gccacagtga | tgggcagccc | aaaggcccca | tattttgcagg | ccgcctcagt | 300 |
| ggctctcctt | agctggttct | tcacctctgg | tgttgagacc | ctttccagga | gtcctcgggc | 360 |
| ctgtcctgtg | gacatgccgg | ccttctctgc | tgcggccagg | atgctctggg | gctctgtgat | 420 |
| gtcttcgtcc | cgtgaccaga | cgcgcattcca | cagttccctg | gacactttct | ccagcatctc | 480 |
| ggggtgctcc | agttttcacg | tgggtaggaa | gcgcattggc | gtcaaacttc | ttttcaagga | 540 |
| tcgcagagaa | gaaatcttgg | ggaagtggat | gggaacctgg | agatggngtc | cagtccttaa | 600 |
| tgncctcttt | catgtacctg | cccggggccg | ntcgaaagcc | gaattctgca | nataatccatc | 660 |
| acactggcgg | ncgntcgaac | atgcattctan | agggcccaat | tcnctatag | tgagcgnatt | 720 |
| acaattcatg | gccgnngntt | tacaacgnnn | ngactgggaa | aacctggngt | taccnacttt | 780 |
| aatgccttn | nannacatcc | cttttncant | ggg | | | 813 |

<210> 257

<211> 600

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 257

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tgcgagntcc | tccgcggcct | ccagcttgcg | cagctcgatg | aggccgtcgc | ccgcagtggc | 60 |
| cagcgagttg | gcgatcagct | ccgccgcctt | gaagtcgccc | tcggcggaga | tgatggctgc | 120 |
| cttcttctgc | tgctcagcct | tttccaccac | aaatctggcc | ctctctgctt | cctgctgagc | 180 |

| | | | | | | |
|------------|------------|-------------|------------|-------------|------------|-----|
| cacctgtttg | gcttccaccg | cttctgtgaa | ctccttgccg | aaggtcagat | gcgtcagaga | 240 |
| cacgtcatcc | aggatgagcc | caaagggtggc | tgctcgctcc | gtgaggatcat | cgctcacctg | 300 |
| tctggagacc | agctctctct | gggtgatcag | ttctccagcg | tcaaagacct | gcccgggagg | 360 |
| ccgtcgcagc | atgcatctag | agggcccaat | tcgccctata | gtgagtcgta | ttacaattca | 420 |
| ctggccgctg | ttttacaacg | tcgtgactgg | gaaaaccctg | gcgttaccca | acttaatcgc | 480 |
| ttgcacacat | tcccctttcg | cagctggcgt | aatagcgaag | aggccgcacc | gatcgccctt | 540 |
| ccaacagttg | ccacctgaat | ggcaatggac | ccccctgtaa | cgngcatta | accccgcggt | 600 |

<210> 258

<211> 674

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 258

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|------------|-----|
| ncgcgatgtc | ctccgcggcc | tccagcttgc | gcagctcgat | gaggcccgctc | gcccgcagtg | 60 |
| gccagcgagt | tggcgatcag | ctccgcggcc | ttgaagtcgc | cctcggcgga | gatgatggct | 120 |
| gccttcttct | gctgctcagc | cttttccacc | acaaatctgg | ccctctctgc | ttcctgctga | 180 |
| gccacctgtt | tggcttccac | cgttctctgt | aactccttgc | cgaaggatcag | atgcgtcaga | 240 |
| gacacgtcat | ccaggatgag | cccaaagggtg | gctgctcgct | ccgtgagggtc | atcgctcacc | 300 |
| tgtctggaga | ccagctctct | ctgggtgatc | aagttctcca | gcgtcaaaga | cctgcccggg | 360 |
| cggccgctcg | agcatgcatc | tagaggggcc | aattcgccct | atagtgaagc | gtattacaat | 420 |
| tactggccg | tcgtttttaca | acgtcgtgac | tgggaaaacc | ctggcggttac | ccaacttaat | 480 |
| cgccttgac | acatccccct | tcgcagctgg | cgtaatatagc | aagagcccg | accgatcgcc | 540 |
| ttccaacagt | tgcgcagcct | gaatggcgaa | tggacgcgce | ctgtagcggc | gcattaagcg | 600 |
| cggcggtgt | ggtggnatag | cgcagcgtga | ccgttcactt | gcaacgcct | aacgcccgt | 660 |
| tcctttcgct | ttct | | | | | 674 |

<210> 259

<211> 818

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 259

| | | | | | | |
|------------|------------|-------------|------------|-------------|------------|-----|
| ganatgcctc | gaccgtgctg | agcaggcgga | gctgacaaga | agcaggctga | agaccgctgc | 60 |
| aagcagctgg | aggaggagca | gcaggccctc | cagaagaagc | tgaaaggagc | ggaggatgag | 120 |
| gtggaaaagt | attccgaatc | agtgaaggat | gccaggagga | aactggagca | ggctgaaaag | 180 |
| aaggccaccg | acgccgaggc | agatgtggcc | tcctgaacc | gccgcattca | gctagtagag | 240 |
| gaggagctgg | accgggcgca | ggagcgtctg | gccacagccc | tgcaaaagct | ggaggaggcc | 300 |
| gagaaggcag | ctgatgagag | tgaaagagga | atgaaggatc | ttgaaaaccg | agccatgaag | 360 |
| gatgaggaaa | agatggagct | gcaggagatg | cagctgaagg | aagccaagca | catcgctgag | 420 |
| gattcagacc | gcaaatatga | ggaggtggcc | aggaagctgg | tgatcctgga | aggagagctg | 480 |
| gagcgctcag | aagagagagc | tgangtggct | ganagtaaat | gtggggacct | agaggaggag | 540 |
| ctgaaaattg | ttccaacaac | ttgaaatcct | ggaagcccaa | gcggacaagt | attccccaaa | 600 |
| gaggattaat | atgaagagga | gatcaaaactg | ctggaagaaa | aactaaagga | ggctgaaccc | 660 |
| gancagagtt | tgcnaaaagg | tccgtggcaa | aattggagaa | aacctatcatg | acctggaaga | 720 |
| cgaagtctac | nccanaaga | tgaantacct | tgcngggccg | gccgttcaaa | cccaattctg | 780 |
| cngatatcca | tcacacttgc | gggccgttca | accttctct | | | 818 |

<210> 260

<211> 813

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 260

| | | | | | | |
|-------------|------------|------------|------------|-------------|-------------|-----|
| acatctgcct | tctgaacgag | ttctcctcac | cggtccact | tacgtccag | aaggagaggt | 60 |
| cttgaagaat | gataagccag | tccgggcagg | gcagtatgat | ggcctggtgg | agctggccac | 120 |
| catttggtgcc | ctctgcaatg | actcctcctt | ggacttcaac | gaggccaaag | gtgtgtatga | 180 |
| gaaggtgggt | gaggccactg | agacagcgct | caccaccctg | gtggagaaga | tgaacgtatt | 240 |
| caataccgac | gtgagaaacc | tctcgaaggt | ggagagggcc | aacgcctgca | actcgggtgat | 300 |
| tcgccagcta | atgaagaagg | aattcacact | ggagttctcc | cgggacagaa | agtccatgtc | 360 |
| cgtctactgc | tctccagcta | aatcccgggc | tgctgtgggc | aacaagatgt | ttgtcaaggg | 420 |
| cgctcccag | ggggctcatc | agcgctgtaa | ctacgtgcgg | gttggtacct | gcccgggcgg | 480 |
| ncgctcaagc | cgaattccag | cacactggcg | gncgttacta | gtggatccga | gctcgggtacc | 540 |
| aagcttggcg | taatcatggt | catagctggt | tctgtgtgaa | attggtatcc | gctcacaatt | 600 |
| cacacaacat | acgagccgga | acataaagt | tnaaacctgg | ggtgcctaata | gagtgagcta | 660 |
| actcacatta | attgcgttgc | gctcactgcc | gcttttcagt | cnggaaacct | gtcntgccac | 720 |
| tgcttaatga | atcggccaac | ccccgggana | ggcggnntgc | gtattgggcg | ctnttccgct | 780 |
| ttcttggtta | attgattnct | tggttgggc | gtn | | | 813 |

<210> 261

<211> 491

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 261

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| gggncatctg | ccttctgaac | gagttctcca | tcaccggctc | ccttacgctc | cagaaggaga | 60 |
| ggtcttgaag | aatgataagc | cagtcggggc | agggcagtat | gatggcctgg | tggagctggc | 120 |
| caccatttgt | gccctctgca | atgactcctc | cttggacttc | aacgaggcca | aagggtgtga | 180 |
| tgagaaggtg | ggtgaggcca | ctgagacagc | gctcaccacc | ctgggtggaga | agatgaacgt | 240 |
| attcaatacc | gacgtgagaa | acctctcgaa | ggtggagagg | gccaaacgct | gcaactcggg | 300 |
| gattcgccag | ctaataga | aggaattcac | actggagttc | tcccgggaca | gaaagtcac | 360 |
| gtcccgtcta | ctgctctcca | gctaaatccc | gggctgctgt | gggcaacaag | atgtttgtca | 420 |
| agggcnetcc | cnanggggtc | atcgagccct | gtaactacnt | gccgggttgg | nccttgccng | 480 |
| gcggccgtta | a | | | | | 491 |

<210> 262

<211> 828

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 262

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| tgcaacctga | acacaacctt | ttttgatcca | gcagggtgggt | ggagacccta | tcctttatca | 60 |
| acacttggtc | tgatttttgc | gacacccaga | agtatacatt | ctcatcttac | caggattcgg | 120 |
| aataatctcc | cacattgtaa | cctactatcc | aggtaaaaaa | gaaccatttg | gatatatagg | 180 |
| catagtatga | gccataatgt | ccattggatt | cttaggtttt | attgtatggg | ctcaccacat | 240 |
| attcacctga | ggaatagacg | tagatacccg | agcatacttt | acatctgcta | caataatcat | 300 |
| tgctattccc | actggagtaa | aagtatttag | ttgattagct | accctgcacg | gcggcaatat | 360 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| taaatgatcg | cccgaatac | tatgagctct | gggcttcac | ttcctattca | ccgtaggagg | 420 |
| tctaacgggc | attgacctgc | ccgggcggcc | gctcgaaagc | cgaattctgc | agatatccat | 480 |
| cacactggcg | gccgttcgag | catgcatcta | gagggcccaa | ttcgccctat | agtgagtcgt | 540 |
| attacaattc | actggccgct | gttttacaac | gtcgtgactg | ggaaaaccct | ggcgttacce | 600 |
| aacttaatcg | ccttgacgca | catccccctt | tgcgcagctg | gcgtaatacc | gaaaangccc | 660 |
| gnaccgatcg | cctttccaac | agtgcgcanc | ctgaatggcn | aatggacncn | ccctgtaaeg | 720 |
| gggcattaac | cccggcgggt | gtggtggttc | cncccaacgt | gaccggtaca | ctttgccanc | 780 |
| gcccttaacg | cccgtccttt | cgtttcttcc | ttcctttntt | ggccacgg | | 828 |

<210> 263

<211> 805

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 263

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aacctnaaca | caaccttttt | tgatccagca | ggtggtggag | accctatcct | ttatcaacac | 60 |
| ttgttctgat | ttttcggaca | cccagaagta | tacattctca | tcttaccagg | attcggaata | 120 |
| atctcccaca | ttgtaacctc | ctattcaggt | aaaaaagaac | catttggata | tataggcata | 180 |
| gtatgagcca | taatgtccat | tggattctta | ggttttattg | tatgggctca | ccacatattc | 240 |
| accgtaggaa | tagacgtaga | tacccgagca | tactttacat | ctgctacaat | aatcattgct | 300 |
| attcccactg | gagtaaaagt | atttagttga | ttagctaccc | tgcacggcgg | caatattaaa | 360 |
| tgatcgcccg | caatactatg | agctctgggc | ttcatcttcc | tattcaccgt | aggaggtcta | 420 |
| acgggcattg | tacctgcgcg | gcggccgctc | gaaagccgaa | ttctgcagat | atccatcaca | 480 |
| ctggcggccg | ctcgagcatg | catctagagg | gccaatcgcg | ctatagttag | tcgtattaca | 540 |
| attcactggc | cgcgttttac | aacgtcgtga | ctgggaaaac | cctgcgttac | ccaacttaat | 600 |
| cgcttgacgc | acatccccct | tgcgcagctg | gcgtaatanc | caanagcccc | naccgatcgc | 660 |
| ccttccaaca | gttgccaacc | tgaatggcga | atggacgccc | ctgtacngng | cattaagcnc | 720 |
| ggcgggtgtg | tgggtccccc | aacgtgaccg | ttcacttgca | gggcctacgg | ccgttctttc | 780 |
| gtttcttctc | tccttttttg | acggg | | | | 805 |

<210> 264

<211> 800

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 264

| | | | | | | |
|------------|------------|-------------|-------------|-------------|------------|-----|
| ctnactcaca | ttaaccacac | taactattct | aacnatccna | attataatat | ccaactcaaa | 60 |
| catctacaaa | actaaccttt | accctaacta | cgtaaaaaacc | accgtatcct | acgccttcac | 120 |
| tctcagccta | gtccccctac | taatattttat | acacacaggc | caagaaataa | tcattttcaa | 180 |
| ctgacattga | ataaccctac | agaccgtaga | actctctctt | agcttttaaaa | tagactattt | 240 |
| ctcagtaata | ttcattcccc | tagcactatt | cgtcacatga | tcaattatag | aattctccat | 300 |
| atgatacata | cactcagacc | ccttcatcaa | ccgattcttt | aaatacctac | tactattctt | 360 |
| aatcactata | ataatcctcg | taaccgccaa | caacctcttc | caactattta | tcggatgaga | 420 |
| aggcgtanga | atcatatcat | tcctgcta | tggtgatga | cacggacgaa | cagacgccaa | 480 |
| cacagntggc | ttcaagcnat | ctatcaacgc | atnggagaca | ttggattggg | ctatcntagg | 540 |
| ctggatncta | accctttaa | cgctgagact | tnacaaattt | tatactaaca | atgaatgcc | 600 |
| aacattccct | taatcggcta | ctctaactgg | nncngganaa | tnnctcaatt | nggctacatc | 660 |
| ccggatggnc | ctangcaata | naanaccac | ttccggttan | ctttctacac | ttcaanacct | 720 |
| ggccnggggg | gcggttnnaa | gcccaatntg | ggnanattcc | ttacactggg | gggcctntna | 780 |
| anttgccttt | aaagggccnn | | | | | 800 |

<210> 265
 <211> 700
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

```

<400> 265
ctnttaataa ccattgaact gaagtngatg ttctggtagg acttatagaa aaggtgacgg      60
taacccgaaa catgcatgca ctgcttttgt gaccaggggg gtcaccccggt gtctccggga      120
ggccagctta gggcttagct ctcaactgctc cccaggggtgt gcttggtcaaa gagatactcg      180
gccatgccat actcgggggc ccccatcctg tgcaagttgg taatgtgggtc acccaattct      240
ttgatggctt tcacctgctc atccaggtaa tgcgtctcaa tgaagtcaca caagtggggg      300
tcatttttgt cagtggccag tttgtgcagt tccagcaggg actgattcac gtttttttcc      360
aagtgcagcg cacattccat ggcagtcagc ccattctccc agtcacgcg ctccggtttc      420
ttgatatcct gaaggaagat tcggccacct cgttacctgc cgggcggncg ctcgaaagcc      480
gaattctgca gatatccatc acaactggcg ncgctcgagc atgcatctag agggccaatt      540
cgcctatant gagtcgtatt acaattcact ggccgcgttt tacaacgtcg tgacttggga      600
aaaccctggc gttacccaac ttaatcgctt gcaananatc ccctttccca nctggcgtaa      660
tanccaaaaa gccgcaccg atcgcccttc caaaagttgc      700

```

<210> 266
 <211> 816
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

```

<400> 266
ttacaggatg atgcagactg ttcgccgaat ggagttaaaa gcagatcagc tctataaaca      60
gaaaattatt cgtgggtttct gtcacttgtg tgatggtcag gaagcttgtt gcgtgggcct      120
ggaggctggc ataaacccta cggaccatct gatcacagcc taccgagctc atggccttac      180
ctttactcgt gggttttctg tccgggaaat tcttgcgga cttacaggac gaagaggagg      240
ttgtggtaaa ggaaaaggag gatcgatgca tatgtatgcc aagaacttct acgggggcaa      300
tggcattgtg ggagctcagg tgccctggg agctgggatt gctctggcct gtaagtataa      360
tggaagatgat gaggtctgtt tgactttgta tggagatggg gctgctaata agggtaaga      420
tatttgaagc ttacaacatg gcanccttgt ggaaattgcc ttgngtttcc atctgtgaga      480
ataatcgcta tgggatggga acgtctgtgg agaaagccgc accacactga ctctataaga      540
aangcacttn attcctgggc tnaagggana tggaatggat atcctgtgtg tcccgggaagg      600
ccccaagggt tgcanccttg ctactgnaaa tctggaaaang gggccatact gatgggaact      660
nanacttacc ggtaccatgg acncnnntta atgaancccc gancagtnnc cgnnctntta      720
ccttttgccc aanttgcena attntttaaa aaaanttttg gnccttcccc ggngggcnn      780
naaaacccaa tttcnnnnca ntggggggcn ntntntn      816

```

<210> 267
 <211> 808
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 267

107/122

| | | | | | | |
|------------|-------------|-------------|--------------|------------|------------|-----|
| tggttanag | cttcaactgt | aatgaggtct | aatttcacatca | catcagtata | acacaagtat | 60 |
| agaactgcgg | ggattttcca | tacttgacaa | taactcagaa | ctgctgcagg | aaggtcatgc | 120 |
| acgatatttg | gttgctccag | cagagagcag | cacggagcct | ctcgaaatt | ctgtgtcttt | 180 |
| agggtctca | ggaaaggcgt | atgaaggctg | ctgggtgatt | cggaggtttt | aaagtcagta | 240 |
| acgtgtcgac | aggtgagaac | agttacttgc | atgttcttct | ttggacaaga | gccgaaaacc | 300 |
| ttttccagcc | actgaaactg | ctgggtcttca | gccacgtagc | aactgcactg | acagagcaaa | 360 |
| accgagggat | tcgatttttag | gtgataaaac | acacaaaaag | cctccgctgg | ggacagatgt | 420 |
| gtagtgtctg | ttgtccggca | ccactcattc | cagagcttan | cacaaccaac | ttcttcccag | 480 |
| actcctgaat | tcatgacaaa | tgatgataaa | aatgctactg | cattatttcc | tatagcgatt | 540 |
| atgaacttgg | agcaaggata | tttttctagc | agagaaacgt | ccaaagatgt | ttttggctgt | 600 |
| cttcgaagga | gccgaacctc | ctctttcgtg | ccagctgtcg | ccggacttcc | tgtcctcggg | 660 |
| cgtttcttcc | tccctcttct | tctctnctnc | tctctnctcc | ggttcgggan | gngccttnac | 720 |
| cacttgccna | aaactggncc | ccatggctcc | ntccggnccg | nttgcnacct | gcccgggcgc | 780 |
| cgttcnaaac | ccaattntgc | anatnct | | | | 808 |

<210> 268

<211> 814

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 268

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| ttgtatccna | tggtgtggac | aaccccgcc | accccttata | aagaccgtgg | gcatgggtggc | 60 |
| tggtgatgag | gagtcctatg | aggtgtttgc | tgacctcttt | gacccagtc | tcaagctgag | 120 |
| gcacaatggc | tacgacctc | gggtgatgaa | gcacccacc | gatctggacg | catccaagat | 180 |
| cacccagggg | cagttcgacg | agcgtacgt | gctgtcgtct | cgggtgcgca | cgggcccgcag | 240 |
| catccgcggg | ctgagcctgc | cgcccgccca | acatgttgag | tgcggtcatg | atccgccagg | 300 |
| tggaatctgg | aatcgagctg | tcatatcctg | catacaacac | ctcgggttca | atgacttcca | 360 |
| gcagtgcac | caggacctgc | ccggggcgcc | gctcgaaagc | cgaattctgc | agatattccat | 420 |
| cacactggcg | gcccgtcgag | catgcattca | gagggcccaa | ttcgccctat | agttagtctg | 480 |
| attacaattc | actggccgtc | gttttacaac | gtcgtgactg | ggaaaaccct | ggcgttacc | 540 |
| aacttaatcg | ccttgagca | catccccctt | tcgccagctg | gcgtaatagc | gaagaggccc | 600 |
| gcaccgatcg | cccttnccaa | cagttgcgca | acctgaatgg | cgaatggacg | cccctgtanc | 660 |
| cggcgcatga | agcgccgcgg | gtgtgggtgn | tacgcgcanc | gtgaaccgnt | cacttgccag | 720 |
| cgccttancg | cccggtcttt | tcgctttctt | tccttncttt | ctngcacggt | cgcgggnttt | 780 |
| ncccgtaagc | tttaaatcgg | gggcttccnt | tagg | | | 814 |

<210> 269

<211> 819

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 269

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cttcagaaag | gggtagtaag | ggtgatcgac | agcaaagagt | aacttaaaat | atcttaaat | 60 |
| ttgggttagg | ccatcgattg | ttttcatatc | ttctggaggc | aattcaaaag | caaaaacctg | 120 |
| gaagttctct | ttgatcctct | gctcattgaa | gctcttggcc | aggaccacca | ctccccgctg | 180 |
| cagctggtag | cgcagggcaa | cctgcgctgg | gcttctgttg | tgtttcttgg | caatagcatt | 240 |
| taagactgga | tcctctaaga | gatatgggtt | gctctcttcc | acccactttg | agtttctttg | 300 |
| ggatcccagt | gcactatagg | caactagaac | gatgtccttg | gacttgcaaa | actccagaag | 360 |
| tttgctctga | ttgaggtaag | ggtggcattc | caactgggtg | cagacgggct | tgtacctgcc | 420 |
| cggggcgccg | ctcgaaagcc | gaattccagc | acactggcgg | ccgttactag | tggatccgag | 480 |
| ctcggtagca | agcttggcgt | aatcatggca | tagctgtttc | ctgtgtgaaa | ttggtatccg | 540 |

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| ctcacaattc | cacacaacat | acgagccgga | agcataaagt | gtaaagcctg | gggtgcctaa | 600 |
| tgagtgaagt | aactcacatt | aattgcgttg | cgctcactgc | ccgctttcca | gtcnggaaac | 660 |
| ctgtcgtgcc | agctgcatta | atgaatcggn | caacgcncgg | ggaaaagcgg | tttgcgtatt | 720 |
| gggcccgtct | tccgctttct | ngntcactga | ctcgcgttgcg | cttcggtcgt | tcnngntgcg | 780 |
| gcaaanccggn | attaacttac | tcaaaaggcg | gnaatacng | | | 819 |

<210> 270

<211> 536

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 270

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| nttnatttga | cacctnctgt | atgacagtga | actttgggca | ccagcctctg | agggccacaa | 60 |
| atccagcccg | gaggggtggc | caggcaagga | ggaagctcca | gagctggacg | aggccgagct | 120 |
| ggactacctc | atggacgtgc | tggtaggcac | acaggcactg | gagcggccac | cagggccggg | 180 |
| gcgctgaccc | ccagggatgg | agtggtgagc | tggtgtcgaa | actgagcctg | gtggctggac | 240 |
| caactctcct | taaagacaca | gccgggcttc | ctagagaggg | actttggaga | gaaggaatcc | 300 |
| tgtcctgggc | aagtttacct | ccaccctcca | tccctttcac | ttatggccga | tggggggagt | 360 |
| ctgggatggg | ctcctgtgat | gaaatgccag | gacctgggtg | ctggaatgtg | attggaccan | 420 |
| gcccagtgtt | gaattcccag | aggctaaaagc | ctagtatccc | ttttcactga | tgtgggaaga | 480 |
| gaccccaacc | agttctgtga | aattaaagcc | ggtcctggga | agtcgcaaaa | aaaaat | 536 |

<210> 271

<211> 828

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 271

| | | | | | | |
|-------------|------------|------------|-------------|-------------|-------------|-----|
| taggttgaag | ngaagtcagt | ggtgtagttc | tcattgcact | tctcgttcct | taacaccaag | 60 |
| ccccctttca | cagttgtttt | catcttttgc | accagatggt | ccacattcac | ctgcagggtcc | 120 |
| cgaatggtga | agggtcctc | aaaaatatag | gcagcatcgg | cccccgctgc | cagtcccgcc | 180 |
| atggtggcca | ggtagccaca | gtagccgccc | atggtttcga | tgatgaacac | acggcgcttg | 240 |
| gtgcccgcgg | cggactgctt | aatgcggcca | caggctcatgc | agatgggtgtt | gagagctgtg | 300 |
| tcggccccca | cgtgaagtc | tgagccgggc | acgttggttg | agaccgtggc | agggatgacc | 360 |
| acaaacggga | tcagagctc | gtcatactgc | ttcctgcctt | ccatcagctc | taggccccct | 420 |
| gtgtaagcct | caaagcccc | aatgatcaca | aggccctgga | tgtaaactt | agtgatgttg | 480 |
| gcactgatct | gttcgaagct | cttcttgggg | agagtccctt | tagtcccaag | tttagaacca | 540 |
| ccttgggccag | tccagccccc | aacatagctc | cagccagcct | nctcgatctg | acccttggct | 600 |
| aagccctcga | agccatcgtg | cacaaccagc | actcggttgc | cctggatgag | gccaatctct | 660 |
| acaagtggaa | ncggacaagc | gggcattcat | gcctgcggct | gggccccac | gttcatcacg | 720 |
| gccactgtgt | aagagccact | cttantcact | gggggtctga | cgtgaaccag | aagcttgnat | 780 |
| accttccagt | tggtcatgaa | gctnccgctt | ttaacttcat | gggggttcn | | 828 |

<210> 272

<211> 815

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 272

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| tcagttaagc | caaaatttcc | gtggccagtg | ttcagctaca | gcttccttaa | ccgtccttcc | 60 |
| tctagttgaa | gaacctccca | gagaggtagt | attgaggaca | agtggtgaca | cgagcttgca | 120 |
| aggaagcttc | tcgtctcagt | cagtcctaat | gtctgcctcc | aagcaggagg | cctccttcag | 180 |
| cagtttcagc | agcagcagtg | ctagcagcat | gactgaaatg | aaatttgcca | gcatgtctgc | 240 |
| ccaaagcatg | tcctccatga | aagagtcctt | tgtagaaatg | agttccagca | gttttatggg | 300 |
| aaaatctagt | atgacacaac | tggaaagtcc | aactagtaga | atgcttaaag | caggcataag | 360 |
| aggaattcca | cctaaaattg | aagctcctcc | ctctgacatc | agcattgacg | agggcaaagt | 420 |
| tttaactgtc | gcctgtgctt | ttaccggtga | gcctacccca | gaaataacat | ggtctcgagg | 480 |
| cgggaaggaga | attcaaaatc | aagaacaaca | agggagattc | catattgaaa | acacagatga | 540 |
| cctgacacgc | tgatcatcat | ggacgtacct | gcccggcgcc | cgctcgaagc | cgattccagc | 600 |
| acactggcgg | ccgtactagt | ggatccgagc | tcggaccaag | cttggcgtaa | tcatgggtcat | 660 |
| actggttctt | gngtgaaatg | gtatccgtcc | aattncacac | acatccaacc | ggaagcttaa | 720 |
| gtggtaagcc | ctgggggtgcc | taatgagtga | gctaactcac | attaatggcg | ttgccctcac | 780 |
| tgccgctttc | cantngggaa | accctgtcgn | ncccg | | | 815 |

<210> 273

<211> 824

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 273

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| agtattgnaa | tggatctgtc | ttcggtaaag | accagcctat | catccttgtg | ctgttggata | 60 |
| tcacccttat | gatgggtgtc | ctggatgggt | tcctgatgga | gctgcaggac | tgtgcccttc | 120 |
| ccctcctgaa | agatgtcatt | gcaacagata | aagaagagat | tgcttcaaaa | gacctggacg | 180 |
| ttgccattct | cgtgggttcc | atgccaaaga | gggatggcat | ggagaggaaa | gatttactca | 240 |
| aagcaaagt | gaaaatcttc | aaatgccagg | gtgctgcctt | ggacaaatat | gctaagaagt | 300 |
| cagttaaggt | tatcgtgggt | ggaaacccag | ccaataccaa | ctgcttgact | gcctccaagt | 360 |
| cggctccatc | cattcccaag | gagaacttca | gctgcttgac | tcgtttggat | cacaaccgag | 420 |
| ctaaagcaca | gattgtcttc | aaacttgggt | tgacttctga | tgatgtcaag | aatgtcatca | 480 |
| tctggggaaa | ccattcctca | actcagtatc | cagatgtcaa | ccatgccaa | gtgaaactgc | 540 |
| aggcaaagga | agttgggtgt | tatgaanctg | tgaaggatga | cagctggctc | aaggggagaag | 600 |
| ttcatcacga | ctgtgcanca | acgcgggtgt | gctggcatca | aggctcgaaa | actgtccagt | 660 |
| gcaatgtctg | cggnaaaacc | ctttgtgacc | atgtnanaaa | catctggttt | tggaaaccca | 720 |
| nagggagaat | ttgtgtcctt | nggcattatc | tctgatggca | actcctatgg | ggttcctgaa | 780 |
| nanctgnnct | actcattccc | tgttcaatca | agggtaaaa | ctng | | 824 |

<210> 274

<211> 810

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 274

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| atthttgact | caaagaaaaa | ctgcagcgcc | attgtcttct | gacaaaaatc | tgcattaaaa | 60 |
| cctcacacaa | tttgctgcaa | atatattgcc | cctttatcat | gtagggactc | caaaccacaa | 120 |
| acattcagtg | caatatattat | tgtttcttat | ttccgtagga | aacacaggac | caatgatgtc | 180 |
| ttctgactac | aactgtttcc | tgatgggtga | gcaacagtct | ccctctgctt | tactttaaag | 240 |
| tcctcgcccg | cgaccacgct | aagccgaatt | ccagcacact | ggcgcccggt | actagtggat | 300 |
| ccgagctcgg | taccaagctt | ggcgtaatca | tggtcatagc | tgtttcctgt | gtgaaattgt | 360 |

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| tatccgctca | caattccaca | caacatacga | gccggaagca | taaagtgtaa | agcctgggggt | 420 |
| gcctaagtga | tgagctaact | cacattaatt | gcgttgcgct | cactgcccgc | tttccagtcg | 480 |
| ggaaacctgt | cgtgccagct | gcattaatga | atcgccaac | gcgcggggag | aggcggtttg | 540 |
| cgtattgggc | gctcttcgc | ttctcgtcac | tgactcgtg | cgctcggtcg | ttcggctgcg | 600 |
| gcgagcggt | tcagctcact | caaaggcggt | aataccggt | ttcacagaat | caggggataa | 660 |
| cgcaaggaaag | aacatgtgag | ccaaaaggcc | agcaaaaagg | ncaggaaccg | taaaaaaggc | 720 |
| cgcggttgctg | gcggttttcc | ataggctccg | ccccctgac | nagcattcaa | aaatcgacct | 780 |
| taaatcanaa | gtgggnnaaa | cccgaaccga | | | | 810 |

<210> 275

<211> 825

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 275

| | | | | | | |
|-------------|------------|------------|-------------|------------|-------------|-----|
| tttgntcgcc | cntctnncgc | ggcgaccagg | gccccagccg | gagagcagca | ggtgtagcca | 60 |
| cccgccccaga | aacccgacgc | catgtgtgac | gaagacgaga | ccaccgccct | tgtgtgacgac | 120 |
| aatggctccg | gcctggtgaa | agccggcttc | gccggtgacg | acgcccctag | ggctgtgttc | 180 |
| ccgtccatcg | tgggcccgc | tcgccaccag | ggcgctcatgg | tgggtatggg | tcagaaagat | 240 |
| tcctacgtgg | gcgacgaggc | tcagagcaag | agaggtatcc | tgacctcaa | gtacctgccc | 300 |
| gggcggccgc | tcgaaagccg | aattccagca | cactggcggc | cgttactagt | ggatccgagc | 360 |
| tcggtaccaa | gcttggtgta | atcatggtca | tagctgtttc | ctgtgtgaaa | ttgttatccg | 420 |
| ctcacaattc | cacacaacat | acgagccgga | agcataaagt | gtaaagcctg | gggtgcctaa | 480 |
| tgagtgaagt | aactcacatt | aattgcgttg | cgctactgcc | cgctttccag | tcgggaaacc | 540 |
| tgtcgtgcca | nctgcattaa | tgaatcggcc | aacgcgcggg | gagaggcggt | ttgcgtattg | 600 |
| ggcgctcttc | cgcttctctg | ctcactgact | cgctgcgctc | ggtcgttcgg | ctgcggcnag | 660 |
| cggtatcagc | tcactcaaag | gcggtaatcn | ggatatncaca | gaatcagggg | ataacgcagg | 720 |
| aaagaaccat | gtgancaaaa | ggccacaaaa | gggcaggaac | ccgtaaaaaa | gccgcgttgc | 780 |
| ttggcgtttt | tcataggttc | cgcccccttg | acaagcatta | caaat | | 825 |

<210> 276

<211> 828

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 276

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tttgactgcc | ttaggacagc | cacagcccta | tgtgtgtcac | agccactttc | agcccaccca | 60 |
| gacaggcttc | ctccagcccg | gtggcgccct | gtccttacaa | aagcagatgg | aacacgctaa | 120 |
| ccaacaaact | ggcttctctg | actcatcctc | cctacgcccc | atgcatcccc | aagctctgca | 180 |
| ttccagccct | ggactgcttg | cctcacccca | gctccctgtg | cagatgcaac | cagcaggaaa | 240 |
| gtcgggcttt | gcaaccacca | gccagcctgg | ccctcggtc | cccttcatcc | agcacagcca | 300 |
| gaacccgcga | ttctaccaca | agtgaccatc | agagtctatc | aacctcgctc | ccagcccctg | 360 |
| ccccctactg | tgggggagga | tccttggtgt | gcctcagtc | caggccaata | aaatctacct | 420 |
| gccactgcc | aaaaaaaaaa | aaaaaaaaaa | aaaaaaaaac | tgcccgggcg | gccgntcgaa | 480 |
| agccgaattc | tgcagatatc | catcacactg | gcggccgctc | gagcatgcat | ntagagggoc | 540 |
| caattcgct | atagttagtc | gtattacaat | tcactggccg | tcgttttaca | acggtcgtga | 600 |
| ctgggaaaac | cctgcgttac | ccaacttaat | cgcttggaag | cacatcccc | tttcgcagct | 660 |
| tggcgtaana | ccaaaangcc | cggaccgatc | gccttccaa | cagttgcgca | accttgatgg | 720 |
| cnaatggacn | cnccctgtaa | cngnggcatt | aagcgcgggc | gttgtggngg | ttacccccc | 780 |
| cgtgaccggg | tacacttgca | agggccttaa | ggcccggttc | nttttttt | | 828 |

<210> 277
 <211> 814
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 277
 gatccagagg ccgacaagaa gagcatggag tggttcaccg tcattgagca ttatcaccca 60
 accagtgccca ccatttctga actgggtcata ggaaacgaat attacttccg ggtcttttct 120
 gaaaacatgt gcggcctcag tgaggatgcc acgatgacca aagagagcgc cgtgattgcc 180
 aaagatggga aaatctacaa aaatccagtg tatgaagact tcgatttcac agaggcaccc 240
 atgtttactc aaccttttgt caatacttac gctgtagctg gttacaatgc taccctgaac 300
 tgcagtgtga gaggaatcc taagcccaaa atcacctgga tgaanaacaa agtgactatt 360
 aaggatgacc caagatacag gatgttcagc aaccaagggg tctgtacca gctgtcccc 420
 cactgtggga aggaacttct ggaagtgatc cattgagctg tcagagaaga catcaggggtg 480
 attttcatag ataaacttct ccaccctcat ttgccgtagt ttgaacatct tagagccccg 540
 gttagtgage agcgacaact cctncaacat cacatccctt gggacactga tcttcttgcc 600
 caggttcagg cctgagctct cctgtccacc tncagtgagt tccatgatca gcttgctggg 660
 atttcctctt cttgtttggg gctgggggtcc cctgaaaacc ggcatttgtg gaagtgggtg 720
 gagccggctg ctcaggcggg ggtcaactnt tcctgggggc caacggcttt ggangacacc 780
 tgcccgggcn ggccgttcaa aacccaattn cact 814

<210> 278
 <211> 812
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 278
 ttnnncnaagt natgcctctt tngctccggg angccctggg cgctgcccc cctgacagcc 60
 tgaagcccta cgctgaggac atctgggctt tgctgttcca gcgctgcgag ggtgctgaag 120
 agggcaccgc gggggtggta gccgagtga tcggaaagct cgtccttggt aaccctccgt 180
 tccttctgccc ccggttccgg aagcaacttg ctgcaggtea gcctcacact cgcagcactg 240
 tcatcacagc agtgaagtgc ctcatctcgg accagcccc cccaattgac cccctcctga 300
 agagcttcat cggagaattc atggagagcc tgcaggaccc agacctgaac gtgcgccggg 360
 ctacgctggc tttcttcaac tctgctgtgc acaataagcc ctgctgggtc cgagacctgc 420
 tggatggcat cctgcccctg ctctaccagg agaccaagat ccaccgggac ctcatccgan 480
 aggtggagat ggggcctttt aagcacacag tggacgatgg gctggatgtg aagaaggcgg 540
 cctttgaatg catgtacctg ccggcgggcc ctcgaaagcc gaattcagca cactggcggc 600
 cgttactagt ggatccgagc tcggtacca gcttggcgta atcatggcat agctgggtcc 660
 tgtgtgaaat tgtatnccgt tacaattnca cacaacatac gancccgga cntaaagtgt 720
 aaagcctggg gtgcctaatt agtgagctaa ctcacattaa ttgcgttgcg ctnactggcc 780
 gntttccaat cnggaaaact gtcngccaac tg 814

<210> 279
 <211> 825
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 279
acnnmtgatg ctttttggaa gngtncncac gatgagactg ctggcattcg tgggtgttgac 60
tctcttttgc gtcactcaag cagaagaagg agccaggctt ttggcctcca aatcactgct 120
gaacagatat gctgtggagg ggcgagactt gaccttacag tacctgcccg ggcggcgct 180
cgaaagccga attctgcaga tatccatcac actggcgccg gctcgagcat gcatctagag 240
ggcccaattc gccctatagt gagtgcgtatt acaattcact ggccgctcgtt ttacaacgctc 300
gtgactggga aaaccctggc gttacccaac ttaatcgctt tgcagcacat ccccttttcg 360
ccagctggcg taatagcgaa gagggccgca ccgatcgccc ttcccaacag ttgcgcagcc 420
tgaatggcga atggacgcgc cctgtagcgg cgcattaagc gcggcggtg tgggtggttac 480
gcgcagcgtg accgctacac ttgccagcgc cctagegccc gctccttttcg ctttcttccc 540
ttcctttctc gccacgttcg ccggcttttc ccgtcaagct ctaaactcggg ggctcccttt 600
agggttccga tttagtgcct tacggnacct ngaccccaaa aaacttgatt aggggtgatg 660
ttcacgtant gggccatngc ctgatagacg gtttttcgce cttttgacgt ttggagtcca 720
cgttctttaa tagtggactc ttgttccaaa ctggaacaac acttaaccct atcttnggct 780
attcttttga ttataaggg attttgncca tttcgggnct attgg 825

<210> 280

<211> 832

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 280
tnnttngncc tacctgttng aactatgggt cgcaaggggc agcacgcctc aggtgccac 60
ccaggcccct ctctcacgag tcctgaagt cctcagcccc acctaccgac ccagtggccg 120
ttacactccg tgggaaaaga gcaagggcca gaccctgtta tccagccgct ccagctcccc 180
cgggcgagac accatgaact ctaagagcgc ccagggtctg gctggtcttc gaaaccttgg 240
gaacacgtgc ttcatagaact ccatacctgca gtgcctgagc aacacccggg agctgagaga 300
ctactgcctc cagaggctct acatgcggga cctcagccac agcagcagtg cacacacggc 360
cctcatggaa gagtttgcaa aactaatcca gaccatatgg acctcatccc ccaatgatgt 420
ggtagacccc tctgagttca agaccagat ccagagatac gcaccgcgct tcgtcggcta 480
taatcagcag gacgctcagg agtttcttcg cttccttctg gatgggctcc acaacgaggt 540
gaaccgggtc acagtgaggc ccaaaagtcca gtcccagggg cctcgacctat ctctgatga 600
tgagaaaggg cgccagatgt ggaggaaata tctagaacng gaagacagtc ggatcgggga 660
tctctttgtt gggcaacttg aagaacttcc ttgacgtgta cctgccgggc nggcgntcga 720
aagccgaatt ccagcacact ggcnngccgg tactagtgga tccgagctcg gtaccnagct 780
tggcgtaatc atgggcatag ctggttctcg gggtgaaaat ggtatccgtt cn 832

<210> 281

<211> 301

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 281
ctggacnngc gctgaagcca ccaagccatg cgcttctctg gcgacgagga gacgggtcgca 60
aaggccatgg aggccgtggc cgcccagggc aaggccaagt gaaggggggg ctctggcaat 120
aaaggtagct cccccaaaa aaaaaaaaaa aaacaaaaaa aaaaaaaaaa aaaaaaaaaa 180
gcttgtagct gcccgggcgg ccgttcnaaa nccnaattnt gcaaatntcc ntcnactgg 240
cgcccggttc accntgcntn taaagggccc anttncncnt atagnagagtc gtnttacant 300
t 301

113/122

<210> 282
 <211> 801
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 282
 ntataaggct gttttggaga tggagacatc tgttgggtga gtagcttctc tcttgggtgc 60
 ctggcagcta cgggaagcca gggcgatctg cctggccagc ttcagggctt ctatccgcat 120
 gatggtaaac tctaactcct cctgaagttt ctgagcaaat actggggggg ttcttttctg 180
 ctaagtcggg ttccagatag tcaagcgcac cacagagaga ggccggatga gccancctgc 240
 tgaggagggc atcancaaag gcaaagganc cctcggnagc tgtantttca atcacttntg 300
 acncggngcc caaggccntg gcntccagct ntttttggaa ggattntttt ggcacntgca 360
 attgtgntc cngnttgggg gccaccntc gnntnacgga atnntgnatn tnaccccggn 420
 gttcacaaaa nnttaagtnt cntnaaaact ggacntgaac acggttcggg nantccaact 480
 tccgaccggg gggaaactna gaccgggntn tctcnnaaaa ntntaacaca tanggccntg 540
 cccgggaggc ctntaaaanc cnattccanc acantggggc cgtntntagg ggatccnate 600
 tnggcnaaan tntngngaa antnngnata tatntgtccc tgtganaaan tgntatccnc 660
 tcanaattca cacaatatn gaccnngaac cataagtga acccnggggc cctaagaggg 720
 actncccana ttanngggn gcctantgc cttttncagg ggaaaacntg tncncnctt 780
 tattaataat cccccccn g 801

<210> 283
 <211> 832
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 283
 ttccactatt cctgggtcag catcccaggg gaagtagaaa cactaacaat acacacccca 60
 cattcacag cacacattca ctcaggcgcg cgcgcacgca cacacacaca cccagagcc 120
 accaaggaag ggaaacacca aggtcgctg cacataaaaa tgccacctca tccctgatgc 180
 acgcatgttc tcccaaggcc acgctcacac gacacacatt ataagcactt tgcctgattc 240
 actcactggg tctgtctttt gtgggaagga gaggaggaat tcatcaagct ctccctccca 300
 ggggtggggg gcagggagtg agtgagtgat ggtggagtg aacaagagca nagaaaaggg 360
 gctgggcagt tcagacctga gtcccaagct cccccactct ctggcccctg atttgccatg 420
 ccccaatctt gtgagccacc cacaagccnc cagctacctn caggtgaaag ccanaaatga 480
 cggcttnac cttggcacc caaanttgan gncanncagc aaccgggggt tagaatgttt 540
 ggaggttctn anaacncttt cngctaaatn atccccttg attaactngg ctgtgcnta 600
 aaaactttcc cnancccttn acctatnaca ngaagcnanc tttgtgncct nntgaaggnn 660
 naccttnang ggttaattaa naaccttcac cctcctaagt tgccaatttt gaaaaatctt 720
 ccctttccgg atacaggntg nngaaantgn ggccttgaca ccaggttnaa agacctncc 780
 ctgggttngn ccaccctaaa aattcnctcc taaangnggn atanggggtg gg 832

<210> 284
 <211> 832
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 284
 ttccactatt cctgggtcag catcccaggg gaagtagaaa ccactaacat acacacccca 60
 cattcacacg cacacattca ctcaggcgcg cgcgcacgca cacacacaca ccccagagcc 120
 accaaggaag ggaaacacca aggggtcgctg cacataaaaa tgccacctca tccctgatgc 180
 acgcatgttc tcccaaggcc acgctcacac gacacacatt ataagcactt tgcctgattc 240
 actcactggg tctgtctttt gtgggaagga gaggaggaat tcatcaagct ctctcccca 300
 ggggtggggga gcagggaagt agtgagtgat ggtggagtga aacaagagca nagaaaagg 360
 gctgggcagt tcagacctga gtcccaagct cccccactct ctggcccctg atttgccatg 420
 cccaatctt gtgagccacc cacaagccnc cagctacctn caggtgaaag ccanaaatga 480
 cggcttncac cttggcaccc caaanttgaa gncanncagc aacccggggg tagaatgttt 540
 ggaggttctn anaacnctt cngctaaatn atcccccttg attaaactngg ctgtgccnta 600
 aaaactttcc cnancccttn acctatnaca ngaagcnanc tttgtgncct nntgaagggn 660
 naccttnang ggtaatttaa naaccttcac cctcctaagt tgccaatttt gaaaaatctt 720
 ccccttcgga atacaggntg nngaaantgn ggctttgaca ccaggttnaa agaccttncc 780
 ctgggttngn ccaccctaaa aattcnctcc taaangnggn atanggggtg gg 832

<210> 285

<211> 822

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 285
 ntttcattct gtctactggt ctaccttggt ctcctgcacc ctggttgtea gcaccctcca 60
 tcacttctcc ctgcacagga ggggttggat actgtggctg acgcccatag ggtctccgca 120
 tgtagtaagg tgggaacctt cgcctgcggt agggccggcg ctggtgggccc tgccttcggg 180
 agcactctct gatccctcgt tcttttcccc actctcacta ttctggtaat tctgtcggta 240
 attgctgga ggacccctgc gacgtggata gcgtctataa tgggttacgg cctgctgcac 300
 attactgcct tgactggaac tccaccaggg cctgtaacgt ttgctgcctc cgaacccttt 360
 tntccttnac accatcaaac tccacagtnt ttccatctcc tacactgcna aggtacctgc 420
 ccgggcggcc gttcaaaagc cgaattccag nacactgncg ccgtncctagg ggatccaanc 480
 togtacaact tgggcnaanc atgggcatan ctgtccctgt gaaaaattgg tttccgctca 540
 cattcccaca aaatnncaaa cccggaanna ttaaagtgtg aaccttgggg ggccnaatg 600
 agtnanctnn actcaantta aattgnnttt ncncctncagt gccnttttc aantcgnaaa 660
 aacctgtngg gccanctgn tttaaanaat tggcccaacn ccncggngaa naggcntttg 720
 ctnttgngc ccttttcctt ttcttnggna naaaannntc nntgccctgg gncnttcggt 780
 tgcggaaagc gttttcactt cnttaaaggg gggattccg nt 822

<210> 286

<211> 559

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence
 Muscular steatosis
 Porcine

<400> 286
 nagnnactac tcttttncnaa atcgcgattt tgtaggacat tgggtgatata agggaattat 60
 gttttcttct tccacacata ctgagagaac ttgtcccttt ctgtttactc caattattcc 120
 agctgtggct tcatgagggt cagtaacaaa gattgtttcc ccactgatcc tattcatgta 180
 gatgcaggta cctgcccggg cggccgctcg aaagccgaat tccagcacac tggcggccgt 240
 tactagtggg tccgagctcg gtaccaagct tggcgtaatc atggtcatag ctgtttcctg 300
 tgtgaaattg ttatccgctc acaattccac acaacatacg agccggaagc ataaagtgtg 360
 aagcctgggg tgccctaatga gtgagctaac tcacattaat tgcgttgccg tccctgcccg 420

115/122

```

ctttccagtc gggaaacctg tcgtgccanc tgcattaatg aatcggccaa cgcgcgggga 480
gaggcggtt gcgtattggg cgctctttcg ctttctcgct cactgactcg ctgcgctcgg 540
tcgttcggct gcggcgaaac                                     559

```

<210> 287

<211> 488

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 287

```

gntaagttca caggacaaca aaggagcagc agaaacagcc aggaaaacga agagccctac 60
cttttcacac tgagccccct atcagagtgc tcgaattcta aagtattctg caaagtgcc 120
cttgaccgga acttttcgcc tgccttttct tttctccaac caccaccatg actgagatca 180
cggcttgaag ggaaatgcat ctactaccac ccactgggtga atagaacagn caagaaccgg 240
gatcttgtgc ccaaaccctt ggaaaaggtg cttaaaaagn anngcncnga aaaactnagt 300
gancaccttt nanttcccaa caacctggct tctnggcann ggtctnnca nnaantggnc 360
anctgnggcc ngtggtagtgn ttgacntaat ggattacnaa aacttttcan caagctctat 420
ttccaagant ggctcaganc ctttaaaact tggcctgccc ngcgggcgcn tcgaaagccg 480
aattctgc                                     488

```

<210> 288

<211> 821

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 288

```

ttnaatgcct tcttgtagtg atatgtgatg ttctgggaag ctcggtctaga gagaagtoga 60
aggaatgcc  actggacatc aaggacatct tcaggaagtt caggattgcc atagctaaac 120
tgaaaaccac cattcatgga ttctccaaac caaacatatt tcttctcagc accagaatct 180
gtccaccagt tcttagctgg aacagtagaa ggactggcac ttatgcatgt ttcccagtt 240
tccatgttac aaaatacttt aatagcatcc attttgcagc cttgggttagg atcaacccaa 300
tatttctcgc tcttgagctc aggatggcag aatttttaggt ctctgcagtt acgagcaggg 360
tttttacgag aaccatcggg actaatgagg ctttctatgt gtccgttgac ggatttaagt 420
gaagtcataa tctcgtcggt gttgatattg aaatccattg gttcatctnc ataatatggg 480
gcaaaaccac cagcttttca cctncaacac cagcgatggc agnagcccca ccaccacaac 540
atggaccatg ggcaccaggg ggtccangag ggcctgggtg tcctggatgg cctggggagc 600
ctcagatcct ctttcacctc tgttacctcn naggccctgg nggnccaatg gggaccnggg 660
tgnnccttgc tccatctttg nccanggggg ccacttnggt ncaacanggt cctntngggg 720
cctgcaagtc ctgggctacc ctactggacc ttngttganc anncnggacc tgganaacct 780
ngggcaccct ggattnccag ggaatnctnt antgtncttn g 821

```

<210> 289

<211> 841

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 289
 ttatgtagaa taccgaacca gtgccgcttg ctngtgttgg tgtgacagca natggcgctcn 60
 tactggtcgg ccagccacac gatgaggatg atgtagaagg ctgagggtgg gtcgntgang 120
 aactcggncat tgatggncn catccnncn agggccaaga tgacngtcac canggggtgct 180
 gcggangaag gcggatggcc atgttcatct ccagntctg cagntgtcc acaatganga 240
 cnnagatctg atgggtggag taacgcacn gcatggacac antcacggtg aaaatgaccn 300
 tgatgactaa ggcggnctatg taggacgtgc gtgccatnca catgctcncg aancggtagt 360
 gctccccgga caccangnt ccnaggaagn ccttgttntc ctggttctnc gccatgcct 420
 tcacantgga catgaagatg tnatcgnagc ccnggaactc gncncatna ggccantgaa 480
 gcgggtcccn aaacactgga ttctctgtgg agtccagggg tgaccaccca tgacanggat 540
 gcttcaaccg ctgcctgttg gccttgatac ngcngcctga aaacctnacn ctgaccnggc 600
 tgccnctnga aangcccaat nctgcagata tccntcacnc tngcnggcgn tccatcatgc 660
 tttntaaggc cccaattacn cctattatga gtnctattan nnattcactt ggccgtcntt 720
 ttacaanttg tganntggga aaaccttgnt gtttcctaaa ttaatccnnt tgnagcnaat 780
 tctccntttg ggctgnttgc ngtaatannt aaaanggtca ncnctttgt nctttnnan 840
 c 841

<210> 290

<211> 824

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 290
 gttttncac cctanaacaa ccttgncct cggaacagag cacaggctca tgtgacacca 60
 gccctgacac agtctcgccc tccctcagcc ctggcttcna ggacctgtcc catgtccggc 120
 ctggctnccc tgccatcaat ggccacagcc atacagatga cgaggagaca ccaggcgagt 180
 agctctcctc ctgggagctc caaggggtct cagagcancg gcagcaccaa ccccatatgt 240
 ctgangtggc agcagatagc cctgccccat gatgggtcagc tctgcctccc tattctgtca 300
 tttggggccc cctgggggac aaggctccct ctctggaata tgggaattcct ggggatcttt 360
 cattcccacc cttcctcact gagaatatct ctctctgtga gacctctctg ccaggccann 420
 ggacaagcan cccanctgga gtcattgggt tgggctcaag gaaacttcca gagccaggcc 480
 tngnatctgg gtctgaacaa cactcatgat tcccagagac catatccaga tgcncctgcc 540
 cacaccctgg tcaggacctt ctcaaggcgg cnnactgna tgtctgattt catnctaanc 600
 catccttgca tttactaatt cttgtntcct tgcttctccc ttccaatgaa agganttcn 660
 tacctgcceg ggcngccntn ncaaatacna attctatcnn actnggcggg cgttcnaatg 720
 gatcccaant ngnncccaag cttngnngtt annaanggtt atanntgnnt nctggngnga 780
 aantgttnta tcctttantn ttccnccacn gtttgngnnc ggnn 824

<210> 291

<211> 698

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 291
 ctgcnattgg gcaactgatga gacccatgcc cgtgtcagcg tgcaogatct gcatgtgggc 60
 atcaccaaaa gactgaagac agtggagggt ctgggtgggt agagctgcag ctttgaatgt 120
 gtccctgtccc acgagaacac tggcgatgtg gctgtgtgga cagttgggtg gaaaacgggtg 180
 gccagctctg accgtttcca ggccactcgc cagggccgca agcacctgcc cgggcggccg 240
 ctcgaaagcc gaattctgca gatattcatc aacttgccgg ccgctcgagc atgcatctag 300
 agggcccaat tcgccctata gtgagtcgta ttacaattca ctggccgctg ttttacaacg 360
 tcgtgactgg gaaaaccctg gccgttacc aacttaatcg ccttgacgca catccccctt 420

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| tcgccagctg | gcgtaatagc | gaagaggccc | gcaccgatcg | cccttccaac | agttgcgcag | 480 |
| cctgaatggc | gaatggacgc | gccctgtaac | ggcgcatata | agcgcgccgg | ggtgtggtgg | 540 |
| ttaccgcanc | gtgaccgctn | cacttgacgc | tgccctaacc | gcccgcctnct | ttcgctttct | 600 |
| tcccttcttt | ctcgccacgt | tcnccggntt | ccccgtcaag | ctctaatacg | gggcttcctt | 660 |
| taagggttcc | gattaagtgc | tttaccgggc | cttnaccc | | | 698 |

<210> 292

<211> 737

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 292

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tnnttncgag | ttggctcgtg | tcacagcaag | catggagatt | tacggctctg | ccgtggcaga | 60 |
| taaactggac | aatagcagaa | gcattctcaa | gaggagatac | tacagacagc | actgcacttt | 120 |
| ggaattgggc | agctacatca | aggacctctc | tgtggtccac | agtgcacctc | ccagcattgt | 180 |
| gatcctggat | aactccccag | gggcttacag | gagccatcca | gacaatgcc | tccccatcaa | 240 |
| atcctggttc | agtgacccca | gcgataccgc | cctcctcaac | ctgcttccta | tgctggatgc | 300 |
| cctcaggttc | accgcggtg | ttcggttctg | gctgagtcga | aaccttcacc | aacataggct | 360 |
| ctggtgacag | ctgctcccc | tccacctgag | ttgggggtgg | ggggaaggga | gggtgagccc | 420 |
| tcgggatgcc | gtctggtgcc | ctggccaacg | gtgaggactg | nctgggcaga | gtctgccctt | 480 |
| ccaccccttt | ctgccctggg | agccctgcac | tccgtatgga | gtctggatgg | acacatgggc | 540 |
| canattctga | acagnctnac | tntaacttcg | ngttcgact | ncccggaac | cccagactgg | 600 |
| gacataaagc | ggangcctgg | ganagctgaa | acattgctgg | gtggaaaaag | gactggcnnn | 660 |
| agtgagcgaa | agacactngg | taatncngga | ggctnaaana | gaacccaagc | ctctttggtg | 720 |
| gggattgatt | tttaaaa | | | | | 737 |

<210> 293

<211> 816

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 293

| | | | | | | | |
|-------------|------------|------------|------------|-------------|------------|------------|-----|
| ntatgcaa | at | cacaactctt | cgtgtagcag | caaaaaccaca | gcagttttta | aaaagattaa | 60 |
| aaaaagattt | ttgttttcaa | atccgtatcg | tcttccagcc | tcaccctctg | agccttgaag | | 120 |
| atggggcg | gagaatacct | acattggtcc | ttgtgtttcg | ttggtgtttt | gttttgttgt | | 180 |
| tggtgtgtgt | gttttttaaa | ccaggggcaa | aaatccctaa | gttcctctgg | ggagaagcag | | 240 |
| agatggtggc | agcaggaagg | ctgggcctgc | ttggtgggtc | caagacgtgc | tggttctctt | | 300 |
| gggctagagg | ccaccgaggg | agggtctgtt | cctctgagat | gcttaatgac | aggaagcggc | | 360 |
| tttatttgct | tgagtttcag | ccagaggggg | tggtgagctg | accaactggg | gtcattggat | | 420 |
| ggcgagacat | agtttgctct | gtgccctctc | tccacgcaag | gtacctgccc | gggcggccgc | | 480 |
| tcgaaagccg | aattccagca | cactggcgcc | cgttactagt | ggatccgagc | tcggtaacca | | 540 |
| gcttggcgta | atcatggtca | tagctggttc | ctgtgtgaaa | ttgttatccg | tcacaattcc | | 600 |
| cacaacatac | gagccggaag | ctaaagtgtg | aagcctgggg | tgccctaatga | gtgaactact | | 660 |
| cacattaatt | gcgttgccgt | actggccgct | tttcaatcgg | gaaacctgcg | tgccanctgc | | 720 |
| attaatgaat | cggccaacgc | nccgggaaaa | ggccgggttg | cgtattgggc | gctnttccgc | | 780 |
| ttnccttggtt | actgaattcn | nttggtctcg | gncgtc | | | | 816 |

<210> 294

<211> 808

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 294

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| tacagcttgg | tgacccatta | ccatagatat | atacattctt | ttttgtcaca | ctatcatgct | 60 |
| ccatcataag | tgatgtgaca | tagttccac | tgctataaag | caggatctca | ttgcttatcc | 120 |
| attccaaagg | caatagttta | catctattaa | ccccaaattc | tcaatccatt | ccactgcctc | 180 |
| tcccaccccc | ttggcaacca | caggtctggt | ctccatgtcc | gtgattaaat | atatacttta | 240 |
| agcatttata | atztatagct | tctgaattta | cctttatcta | ctacccatct | atcttctatc | 300 |
| tgtatttccc | ctgcccactt | ttcatttgca | ctatgtgatg | gagaatacgg | gttgccaatg | 360 |
| cagccacctg | gaaaaaata | cgtttccctt | tcttccttgc | atatataagt | gggcacgtga | 420 |
| tgcaattctg | gacaatgaaa | tataaaatta | tttgagcttc | atgtaaaaat | cattttttta | 480 |
| aaaaatttta | cctgataccta | gtttttcatg | agaggatata | tattattatc | tttgnattct | 540 |
| actttattcc | aattccagtc | ttcatgtcat | caatttttgt | cagttacttt | aaactgncat | 600 |
| atatgatcac | agttttggca | gttcttttaa | ctgnaatgng | tgttggacct | gcccggcggc | 660 |
| cgctcgaaaag | ccgaattctg | cagatatcca | tcacactggc | ggccgntcga | ncatgcatct | 720 |
| agaaggccca | attngcccta | tagtgagtcg | gattacaatt | cactgggccc | cgttttacaa | 780 |
| cgctcngact | ggggaaaacc | tggcgtn | | | | 808 |

<210> 295

<211> 600

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 295

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| nattgtaagc | aaaatagttg | aaaaatcaat | atgctccttg | tgttttttaa | tgtcaaagtt | 60 |
| tgtgttaggg | tttatttggt | tatgacacag | tgatcataaa | tgatgaaatt | taataaatgt | 120 |
| tatactctaa | catggtacag | acaaaaaaaa | aaaaaaaaaa | aaaaccattg | ctcagtatac | 180 |
| cggcccaaag | acaggaaatt | tgcagtgtat | actctaactt | gcaaatacac | agccttgagc | 240 |
| aattgagttg | atctgacttg | tgattatgaa | tttataaatt | agggctgtgg | gctactgtag | 300 |
| acctaataaa | tgatggatct | gtacctgccc | ggcgggccgn | tcgaaagccg | aattccagca | 360 |
| cactggcgcc | cgttactagt | ggatccgagc | tcgggtaccaa | gcttggcgta | atcatggtca | 420 |
| tagctgtttc | ctgtgtgaaa | ttgttatccg | ctcacaattc | cacacaacat | acgagccgga | 480 |
| agcataaagt | gtaaagcctg | gggtgcctaa | tgagttagct | aactcacatt | aattgcgttg | 540 |
| cgctcactgc | ccgctttcca | gtcgggaaac | ctgtcgtgcc | actgcattaa | tgaatcggcc | 600 |

<210> 296

<211> 750

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 296

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| ttngctggcc | cattgacaag | ttcngtacc | tatttttttt | aaaaaaagcg | gaggtggggg | 60 |
| ggagtcctta | ttctggacag | tccgtgccat | cagggcacat | cccacagggc | agctctgaga | 120 |
| accagcaaag | cacacagcct | ggcatccaga | gacctgccca | gccccctaa | ggccacataa | 180 |
| tttgcaaagg | acagagtttg | gtttggagac | caggggaagg | gctttcgcaa | atttttcctg | 240 |
| tcctgcccc | caaccaaacc | tctcccacct | ggttcatttc | cattcttctg | tttctaaca | 300 |
| ttgtcctct | ctgtccccctg | gccccaaacc | tgaattatct | gtttaagata | aaaaccctag | 360 |

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| aaagaagcct | caaagccctg | gaatcaggaa | gaaagagtgt | gtacctgcc | gggcgccgc | 420 |
| tcgaaagccg | aattccagca | cactggcggc | cgttactagt | ggatccgagc | tcggtaccaa | 480 |
| gcttgccgta | atcatgggtca | tagctgttcc | ctgtgtgaaa | ttgttatccg | ctcacaattc | 540 |
| cacacaacat | acgagccgga | agcataaagt | gtaaagcctg | gggtgcctaa | tgagtgaagt | 600 |
| aactcacatt | aattgcgttg | cgctactgcc | cgttttcagt | cgggaaacct | gtcgtgccac | 660 |
| tgcattaatg | aatcggccaa | cgcgcgggga | gaggcggttt | gcgtattggg | cgctctttcg | 720 |
| cttcctngnt | cactgactcg | ctgcgctcgg | | | | 750 |

<210> 297

<211> 675

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 297

| | | | | | | |
|-------------|------------|------------|------------|-------------|-------------|-----|
| tatttagcac | atgggggttg | gaaccttatt | tttaaagtga | aatatttttag | ctcatttttag | 60 |
| ttctaattgt | cctgacttag | cttgggtttt | tccttcccat | gttcctgaag | agagggtttac | 120 |
| agttccctga | ttccccttga | tttccagtca | tttgaacagg | aaaagtgcct | aagcatgaag | 180 |
| agtgtctttt | tctccctgct | cgcctatctt | caaaattgaa | aacgattctc | ttcccttctc | 240 |
| tccctcctct | cactccacat | ttcctgcctc | atcccgatcc | cctgacacag | gaaaaataac | 300 |
| tttgggaagat | tagaaagggg | gtataaagat | ttggaattca | aaacaggaca | tctcagaagg | 360 |
| tgtacctgcc | cgggcggccg | ctcgaagccg | aattccagca | cactggcggc | cgttactagt | 420 |
| ggatccgagc | tcggtaccaa | gcttggcgta | atcatggcat | agctgggtcc | tgtgtgaaat | 480 |
| tggtatcgct | cacaattcac | acaacatacg | agccggaacn | ttaagtgtna | aacctgggggt | 540 |
| gcctaatagaa | gtgagctaac | tcacattaat | tgcgtgcgct | actggccgct | tttcaatcng | 600 |
| gaaacctgtc | gtgccactgc | attaatgaat | cgggcaacgc | cccggganaa | gcggttgcg | 660 |
| attgggcgct | ctttc | | | | | 675 |

<210> 298

<211> 823

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 298

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| ctgcaataca | aaacccttct | gaaagaaata | ctctaaggct | tctccaattc | aaaaaaagaa | 60 |
| aaaagaaaaa | aaccattgga | aagcagtgac | ttagaaagcc | agcatacaga | tctaaccatg | 120 |
| aagatatcaa | aaacataaaa | tgaaataaac | tacatcaaag | tatacaatga | gggcgaggaa | 180 |
| tggaagaaaa | tgtaaatect | ttgtcttggt | tcaatgacgc | gtttgggtcct | atgtaacggg | 240 |
| caggctaaag | tgagcagaca | aacgaagggg | ttaacataaa | aacaaaacag | ggcaacccca | 300 |
| atccaaaagc | caccactaca | ttcaaaaatc | ggaaaaggaa | aggactccag | cagagaatca | 360 |
| acggaaccca | tccacccaaa | ggaaaagaaa | gaagaaaaga | gaaacataga | ctcaacggga | 420 |
| aaacaaggct | tcaaatggca | atcaagaaac | atctatcagt | gaccacctga | attgttctgg | 480 |
| gaccgaatgc | tgccatcaaa | agacacagag | ggccagattg | ggtacctgcc | cgggcggggc | 540 |
| ctcgaagacc | gaattctgca | gatatccatc | acactggcgg | ncgctcgagc | atgcatctag | 600 |
| agggcccaat | tcgccttata | gtgagtcgta | ttacaattca | ctggccgctc | ntttacaacg | 660 |
| tcgtgactgg | gaaaaccctg | gcgttcccaa | cttaatcgcc | ttgcagcaca | ttccctttng | 720 |
| ccagctggcg | taatagcgaa | aaggccccac | cgatcggcct | ttccaacagt | tgcgcacctg | 780 |
| aatggcgcaat | ggacccccct | gtaccggggc | attaaccncg | gng | | 823 |

<210> 299

<211> 674

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 299

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| ggncaattat | ggtgattata | tgtgatttga | agaagtcaaa | atgaactgcg | ttaagatcat | 60 |
| ttgaacatca | tggttcttat | aactatcctt | gtattctttt | cacaagaggt | ctataaaata | 120 |
| tttgtttaaa | agtgtttttt | tgtatcaaaa | tactcggaca | attagaagct | tctttttaac | 180 |
| atgtattgat | atgacttgaa | ttattatttt | ctagaattaa | gagccctata | tctacctgta | 240 |
| aatccttttg | cataatatca | gtttaagctt | ttgtttctgt | tattcttgat | ttacagctta | 300 |
| ggtgtccctt | gggttttctt | tcaaaggaag | caatcaatgt | gcatgctttt | atgtttttca | 360 |
| caagaggggtg | tggttgatg | aaagtaaaag | aaaaaaatna | aananaaaaa | aaaaaanaaa | 420 |
| aaaaaaaaagc | ttgtcctgcc | cgggcggccg | ntcgaaagcc | gaattccagc | acactggcgg | 480 |
| ccgttactag | tggatccgag | ctcggtagca | agcttggcgt | aatcatggnc | atagctgttc | 540 |
| ctgtgtgaaa | ttgtatcccg | gtcacaattc | cacacaacat | acgagccgga | agcataaagt | 600 |
| gtnaacctgg | gggtgccta | gagtgactaa | ctcacattaa | ttgcgttgcg | ctcactggcc | 660 |
| cgctttccan | tcgg | | | | | 674 |

<210> 300

<211> 797

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 300

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| gttttcaccc | agtgtttttt | aaaatttcct | ggtgactaat | tcccaatatc | aaaataaaca | 60 |
| ctatcaaata | cccaaatttt | aatgttaagg | ctaataattt | cacttcacat | ccatatgcac | 120 |
| aaccataaaa | cattccattt | taaatatgta | gtaatcaaa | tatgaatata | ttataccatg | 180 |
| tatatatagc | atcagagttt | caaactgtag | aattattcaa | gttcatgaat | cttgtaacag | 240 |
| tatttactag | agatgtaaat | tagcattttg | ttcttcaacc | acacttaca | atgggtctgg | 300 |
| atccataatg | accaaagcaa | aaaataagac | aggctgagtt | tatgatacag | tatttataaa | 360 |
| agtagcaatg | tggtggaaag | aactgctatt | taattaaaca | gaatcattct | agtccttcag | 420 |
| aaagttatct | taatatattg | gaaagggtata | taaaaatagc | aagctatttc | catgtatttt | 480 |
| attgtagagc | tataggtaat | tttttgattt | ttttgaacac | atttgaatat | ttactcttct | 540 |
| gntctatttt | aatgcacggg | catcatttaa | tgnccatttt | tatatcttgn | aatatcatgt | 600 |
| cattcaataa | tttttagaca | cagatctgat | tttatttttc | attttatcat | tagatgtttt | 660 |
| ttagttttat | tttacacata | aaaatgtaat | tttatataac | aagccatgga | atccacgtat | 720 |
| caggaattgc | ttgatagcac | tatatattaa | ataatcatca | aattattgaa | tcatttggga | 780 |
| agaaaaatct | tggttagc | | | | | 797 |

<210> 301

<211> 303

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 301

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| accagaaggg | actcctaccc | ggccgagggc | ggtgagcact | gtagacacac | ctgcaacgtg | 60 |
| aagcctgagg | tctggcgggc | agttatctcc | gcttggggtt | gtccttgggc | tcactacttc | 120 |
| cttcccctgg | ctggagcttt | tgtgagtcct | ggaataactg | ggcatgaac | tgggtgctgg | 180 |

121/122

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|-----|
| cttcagggttc | gctcagggtgg | aagcgggtca | gaaatttgctc | catttttccaa | gaacctcgag | 240 |
| ttttgttttc | tttggaag | agagagatgc | tctttcctgc | tgaacatann | cnaagaactg | 300 |
| gta | | | | | | 303 |

<210> 302

<211> 823

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 302

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| gaaaaaagaa | aaaaaccatt | ggaaagcagt | gacttagaaa | gccagcatac | agatctaacc | 120 |
| atgaagatat | caaaaacata | aatgaaata | aactacatca | aagtatacaa | tgagggcgag | 180 |
| gaatggaaga | aaatgtaaat | cctttgtctt | gtttcaatga | cgcgtttggt | cctatgtaac | 240 |
| ggtcaggcta | aagtgagcag | acaaacgaag | gggttaacat | aaaaacaaaa | cagggcaacc | 300 |
| ccaatccaaa | agccaccact | acattcaaaa | atcggaagaa | gaaaggactc | cagcagagaa | 360 |
| tcaacggaac | ccatccaccc | aaaggaaaag | aaagaagaaa | agagaaacat | agactcaacg | 420 |
| ggaaaacaag | gcttcaaattg | gcaatcaaga | aacatctatc | agtgaccacc | tgaattgttc | 480 |
| tgggaccgaa | tgctgccatc | aaaagacaca | gagggccaga | ttgggtacct | gcccgggcgg | 540 |
| ncgctcgaaa | gccgaattct | gcagatatcc | atcacactgg | cggccgctcg | agcatgcac | 600 |
| tagagggcc | aattcgccct | atagtgagtc | gtattacaat | tactggccg | tcgntttaca | 660 |
| acgtcgtgac | tgggaaaacc | ctggcggtac | ccacttaatc | gcttgacgca | cattcccctt | 720 |
| tcgncagctg | gcgtaatagc | gaaaaggccg | caccgatcgn | cctttccaac | agttgcgcan | 780 |
| cctgaatggc | naatggacnc | cctgtacng | ngcattaaac | gcg | | 823 |

<210> 303

<211> 818

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 303

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| ctatcaaata | cccaaatttt | aatgttaagg | ctaataattt | cacttcacat | ccatatgcac | 120 |
| aaccataaaa | cattccattt | taaatatgta | gtaatcaaag | tatgaatata | ttataaccatg | 180 |
| tatatatagc | atcagagttt | caaactgtag | aattattcaa | gttcatgaat | cttgtaacag | 240 |
| tattttactag | agatgtaaat | tagcattttg | ttcttcaacc | acacttacia | atggctctgg | 300 |
| atccataatg | accaaagcaa | aaaataagac | aggctgagtt | tatgatacag | tatttataaaa | 360 |
| agtagcaatg | tggttgaaag | aactgctatt | taattaaaca | gaatcattct | agtctttcag | 420 |
| aaagttatct | taatattttg | gaaagggtata | taaaaatagc | aagctatttc | catgtatttt | 480 |
| attgtagagc | tataggtaat | tttttgattt | ttttgaacac | atttgaatat | ttactcttct | 540 |
| gntctatttt | aatgcacgg | catcatttaa | tgnccatttt | tatatcttgn | aatatcatgt | 600 |
| cattcaataa | tttttagaca | cagatctgat | tttatttttc | attttatcat | tagatgtttt | 660 |
| ttagttttatt | tttacacata | aaaatgtaat | tttatataac | aagccatgga | atccacgtat | 720 |
| caggaattgc | ttgatagcac | tatatattaa | ataatcatca | aattattgaa | tcatttggga | 780 |
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<210> 304

<211> 815

<212> DNA

<213> Artificial Sequence

122/122

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 304

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| tgga | ctct | ggctag | tagg | ttttcc | naaa | ctccta | aatt | caaact | gtgact | aata | 60 |
| caa | atgctct | gatgtg | caaaa | aaagggtgga | atat | ccacat | cagctt | gccc | atgtgc | catta | 120 |
| catg | cccaag | gtttct | aacc | agtga | ggtga | at | ttgt | ctggt | gtttata | aagg | 180 |
| tggt | ctggagg | cttttt | caca | ttcact | gtat | ccacag | at | ttt | ctcaag | gtaga | 240 |
| ctgat | gctta | gtaagg | gata | tactct | gaat | acctt | ccac | atttact | ccct | tcttag | 300 |
| tctct | atagt | atgtgt | tcct | gatg | cttagt | aagt | ttttact | gatg | tttttt | accgc | 360 |
| agcag | tttct | ccccag | tatg | agttg | ttgag | tttttc | cagtt | tg | ttttatta | ggaaaa | 420 |
| gtgtc | taaa | gctgtt | ctat | atgcatt | cca | ttgaaa | aggc | ttat | cccat | cataaa | 480 |
| ctgat | gttga | ataatg | tgtg | tcctc | taact | aaagc | ctttc | caa | atccatt | acactc | 540 |
| ntttc | ttatt | agttt | gaatt | ctctg | ggtgt | tgataa | agga | ggagg | tatgc | ctggagg | 600 |
| actcc | ctttc | ttgat | attaa | tagat | agctt | ctgtt | tanta | tg | ccctgt | ctgat | 660 |
| aagat | gtatc | ctctg | acctg | aagt | cttcca | tatac | gttac | actc | atagga | tctctt | 720 |
| ctata | tcctc | tgang | gttaa | tggtg | tgtg | acctg | cccg | ggggc | cgctn | aaacca | 780 |
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<210> 305

<211> 691

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial sequence

Muscular steatosis

Porcine

<400> 305

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| gctg | acagtt | gtggcc | cggt | ccatg | gctcc | tccgg | ccttc | cctc | aaaacg | ccacc | actga | 120 |
| ctggt | ctcag | aaaagg | caga | gaact | acaga | ctatt | ccagc | aaatt | tgtt | cagcg | cacag | 180 |
| ccgac | acgt | ccccat | ctgt | tcaga | aaagtc | atgtg | agggtc | aacatt | cact | ccgag | tcac | 240 |
| ttttat | gggt | tttat | gcttt | agcat | gtctg | ggagat | gggt | tcgtg | aacga | tagag | attat | 300 |
| atggg | gaaag | ggaagg | tcca | aacct | tttatt | tttat | caaaa | tactg | ggtaa | gatag | tatt | 360 |
| aaga | attcgc | tcaga | aggaa | atgc | acagga | cacca | aaaagg | aaaac | ggtgt | ggtat | aggaa | 420 |
| tctca | caatt | tagta | ggacc | anggc | ttgcc | tgtgt | tccat | tgatt | tagact | ttcta | gcctg | 480 |
| gtgtg | tgttt | gtt | gtttgtt | tgctt | gggtg | gtagt | gggtgc | anggc | agggg | antant | tgta | 540 |
| aagcc | ctnta | aaca | agctca | ttctc | tagct | cccct | actgt | tgatc | cgcc | gntaaa | agtt | 600 |
| acctt | ctcct | atac | ctatgc | aanana | aatta | ataac | ncct | tatag | gatnc | ccttg | gttgg | 660 |
| gaccg | ggg | gcc | taagat | caan | cnttag | ggaa | t | | | | | 691 |

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(74) Agents: CÔTÉ, France et al.; Swabey Ogilvy Renault,
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(21) International Application Number: PCT/CA01/00509

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(30) Priority Data:
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(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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Published:

— with international search report

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(88) Date of publication of the international search report:
6 September 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 01/079287 A3

(54) Title: STEATOSIS-MODULATING FACTORS AND USES THEREOF

(57) Abstract: The present invention relates to a method of modulating the muscular steatosis-modulating factors (MSMF). The determination of concentrations of the MSMF is described for the establishment of the steatotic state in individuals. Also, is disclosed a method of selecting individuals to serve as founders of animal lineages. The present method involved too the treatment of human and animals with agonists or antagonists of MSMF depending of the effects desired.

INTERNATIONAL SEARCH REPORT

International application No
PCT/CA 01/00509

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N33/74 C12Q1/68 A61K38/17 A61K39/395

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N C12Q A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data, BIOSIS, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | WO 99 23493 A (UNIV ROCKEFELLER) 14 May 1999 (1999-05-14) the whole document | 1 |
| A | US 4 929 600 A (COGBURN LARRY A) 29 May 1990 (1990-05-29) abstract | 1 |
| A | WO 99 67631 A (DOYLE JOHN CONAN) 29 December 1999 (1999-12-29) abstract | 1 |

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
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Date of the actual completion of the international search

7 May 2002

Date of mailing of the international search report

17/05/2002

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Moreno, C

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 38-45, 48-72

Present claims 38-45 and 48-72 relate to compounds defined by reference to a desirable characteristic or property, namely being muscular steatosis-modulating factors.

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product/compound/method/apparatus by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the compounds.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International application No
PCT/CA 01/00509

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|----------------------------|---------------------|
| WO 9923493 | A | 14-05-1999 | WO 9923493 A1 | 14-05-1999 |
| US 4929600 | A | 29-05-1990 | AU 3360989 A | 05-10-1989 |
| | | | EP 0358754 A1 | 21-03-1990 |
| | | | JP 2503987 T | 22-11-1990 |
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